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A Temporal and Spatial Study of Invertebrate Communities Associated With Hard-Bottom Habitats in the South Atlantic Bight

E. L. Wenner, P. Hinde, D. M. Knott, and R. F. Van Dolah

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CONTENTS

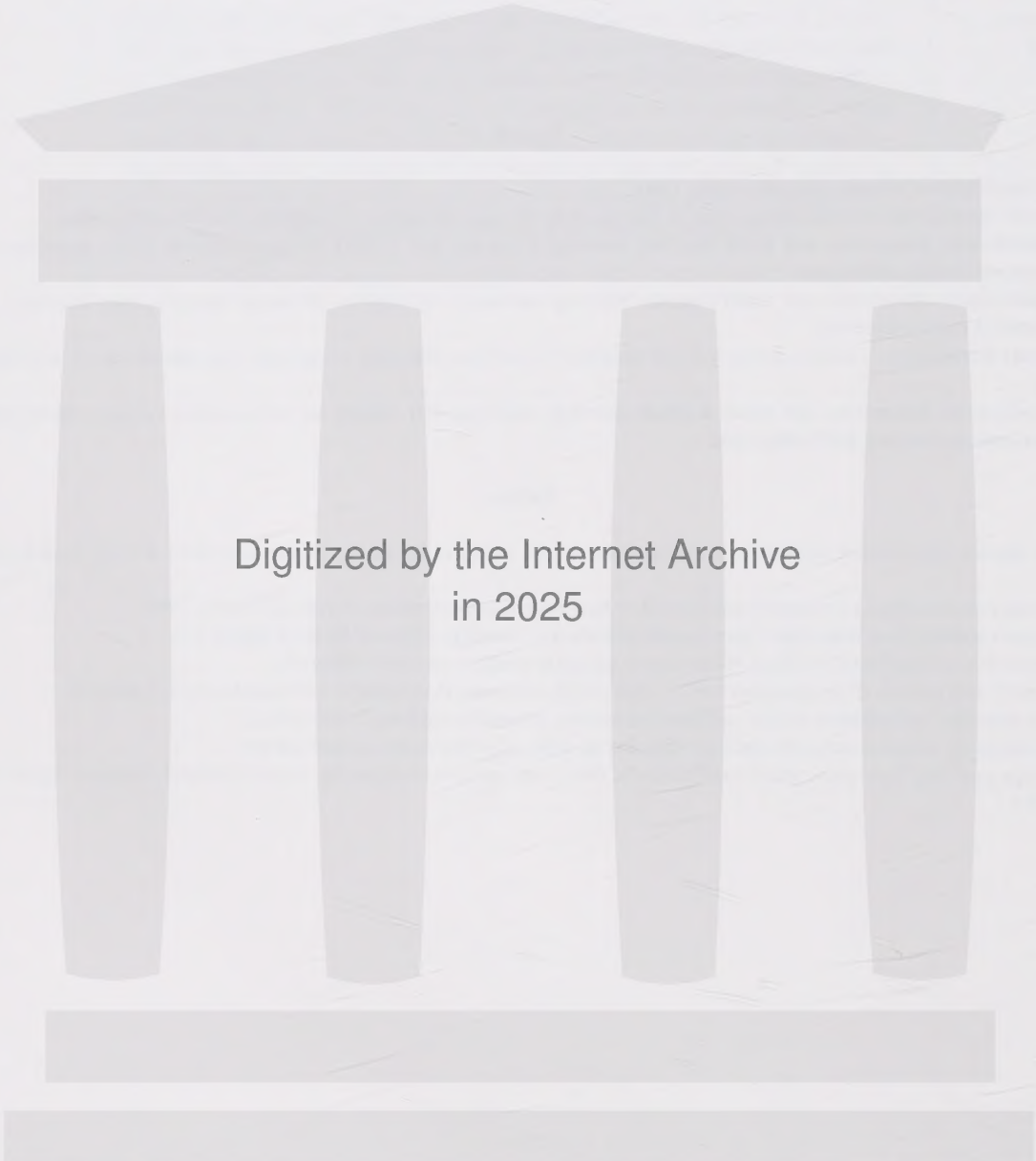
Introduction 1
Materials and methods 1
  Collection of samples 1
  Data analysis 2
Results and discussion 3
  Hydrographic measurements and description of study sites 3
  Large macrofauna sampled by dredge and trawl 3
  Biomass of larger macroinvertebrates 8
  Smaller macroinvertebrates sampled by suction and grab 8
Conclusions 13
Acknowledgments 15
Literature cited 15
Appendices 17-104

Figures

1. Location of hard-bottom stations sampled during 1981 2
2. Normal cluster dendrogram showing station groups formed using the Jaccard similarity coefficient and flexible sorting 4
3. Inverse classification hierarchies and nodal diagram showing constancy and fidelity of station-species group coincidence based on seasonal dredge collections 6
4. Inverse classification hierarchies and nodal diagram showing constancy and fidelity of station-species group coincidence based on seasonal trawl collections 8
5. Normal cluster dendrogram of station groups formed using the Bray-Curtis similarity coefficient, log transformation, and flexible sorting 13
6. Inverse classification hierarchies and nodal diagram showing constancy and fidelity of station-species group coincidence based on seasonal suction and grab collections 15

Tables

1. Number of species and percent contribution for each taxonomic group collected by dredge and trawl at each station and season 3
2. Species groups resulting from numerical classification of data from samples collected by dredge during 1981 5
3. Species groups resulting from numerical classification of data from samples collected by trawl during 1981 7
4. Percent contribution to epifaunal biomass of taxonomic groups in dredge and trawl collections 9
5. Average density and percent of total number for 10 numerically dominant invertebrates collected by suction and grab 10
6. The 10 most abundant invertebrate species collected by suction and grab samplers at each station 11
7. Seasonal community structure values for pooled replicate samples of invertebrates at each station 12
8. Species groups resulting from numerical classification of data from samples collected by suction and grab samplers during all seasons, 1981 14



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A Temporal and Spatial Study of Invertebrate Communities Associated With Hard-Bottom Habitats in the South Atlantic Bight[1]

E. L. WENNER, P. HINDE, D. M. KNOTT, and R. F. VAN DOLAH[2]

ABSTRACT

Species composition, biomass, density, and diversity of benthic invertebrates from six hard-bottom areas were evaluated. Seasonal collections using a dredge, trawl, and suction and grab samplers yielded 432, 525, and 845 taxa, respectively. Based on collections with the different gear types, species composition of invertebrates was found to change bathymetrically. Inner- and middle-shelf sites were more similar to each other in terms of invertebrate species composition than they were to outer-shelf sites, regardless of season. Sites on the inner and outer shelf were grouped according to latitude; however, results suggest that depth is apparently a more important determinant of invertebrate species composition than either season or latitude. Sponges generally dominated dredge and trawl collections in terms of biomass. Generally, cnidarians, bryozoans, and sponges dominated at sites in terms of number of taxa collected.

The most abundant smaller macrofauna collected in suction and grab samples were polychaetes, amphipods, and mollusks. Densities of the numerically dominant species changed both seasonally and bathymetrically, with very few of these species restricted to a specific bathymetric zone.

The high diversity of invertebrates from hard-bottom sites is attributed to the large number of rare species. No consistent seasonal changes in diversity or number of species were noted for individual stations or depth zones. In addition, H' and its components showed no definite patterns related to depth or latitude. However, more species were collected at middle-shelf sites than at inner- or outer-shelf sites, which may be related to more stable bottom temperature or greater habitat complexity in that area.

INTRODUCTION

Although other studies have provided species lists of invertebrates from hard-bottom areas [see Continental Shelf Associates (1979) for literature review], Wenner et al. (1983) provided the first detailed information on structure of hard-bottom invertebrate communities in the South Atlantic Bight. Results indicated that the invertebrate fauna of these areas was more diverse than the surrounding sand biotope. Species composition was apparently related more to station depth than to season, although species associations did vary between winter and summer. Because sampling during their study was limited to only two seasons, it was not possible to determine seasonal trends in community composition, structure, and biomass which might be occurring over an annual cycle.

This paper presents results from a second-year study of invertebrates associated with hard-bottom habitats and focuses on seasonal as well as bathymetric changes in community parameters. Comparisons with results from the initial study of hard-bottom sites by Wenner et al. (1983) provide additional information on annual variations in the epibenthic invertebrate community.

MATERIALS AND METHODS

Collection of Samples

Two study sites were selected between lat. 31°24′ and 32°49′N from each of three bathymetric zones: Inner shelf (IS01, 17-18 m; IS02, 17-22 m), middle shelf (MS02, 23-29 m; MS06, 32-36 m), and outer shelf (OS01, 59-67 m; OS06, 46-69 m) (Fig. 1). Four of the sites (IS01, IS02, MS02, OS01) were previously assessed during the initial study (Wenner et al. 1983). All sites were sampled quarterly during 1981 as follows: Winter (25 February to 17 March), spring (26 April to 28 May), summer (25 July to 13 August), and fall (6 October to 16 November).

Prior to sampling for invertebrates, hydrographic profiles of temperature, salinity, and dissolved oxygen were obtained at each site by Niskin bottles with reversing thermometers.

Qualitative samples of large and encrusting macroinvertebrates were taken quarterly with a heavy duty Cerame-Vivas dredge (Duke University Marine Laboratory 1968) having a mouth opening 90 cm × 37 cm and maximum mesh opening 40 mm × 30 mm. Two replicate dredge tows were attempted at each station with a total of 43 actually completed. Tow length was standardized to approximately 0.1 km using loran-C positioning.

Additional qualitative collections of large macroinvertebrates were obtained as incidental catch by a trawl (12 m headrope, 16 m footrope, 12.8 m vertical height) equipped with steel doors and rubber rollers. Six replicate tows (three day and three night) were attempted quarterly at all sites except station OS06, where high bottom relief prevented use of the trawl. Altogether, 119 trawl tows were completed. Trawl tows were standardized to a distance of about 1 km.

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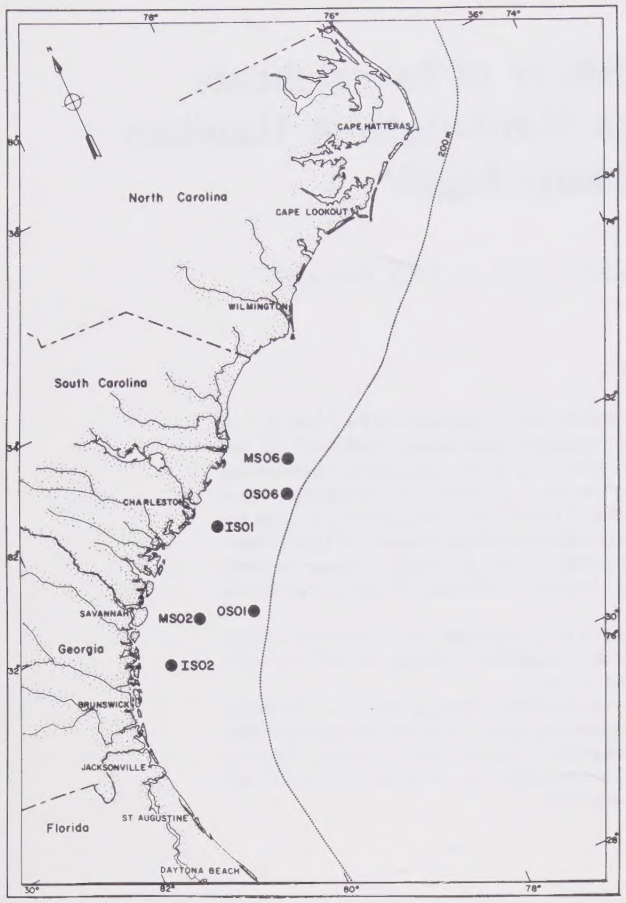


Figure 1.—Location of hard-bottom stations sampled during 1981.

Invertebrates collected by dredge and trawl were sorted into the following major taxonomic groups for wet-weight estimates: Porifera, Hydrozoa, Scleractinia/Octocorallia, Mollusca, Decapoda, Echinodermata, Ascidiacea, and other miscellaneous invertebrates. Encrusting organisms which could not easily be removed from rocks were not weighed. Representative specimens of each species were preserved in 10% buffered seawater Formalin and transferred to 70% isopropanol prior to identification.

Quantitative samples of smaller benthic invertebrates not adequately sampled by dredge and trawl were obtained at inner- and middle-shelf sites by scuba divers using an airlift suction sampling device similar to that described by Chess (1979). Divers obtained five replicate samples at each station from a suitable area chosen to avoid large patches of sand commonly found at the sites. A disc with five equally spaced radial marks was dropped to the bottom and a 3 m line, fastened to the center of the disc, was then used to place five open-ended quadrat boxes (0.1 m^2, 10 cm walls) equidistantly around the disc. Exact positioning of the quadrat boxes was accomplished by randomly selecting one of nine possible quadrat areas from a larger grid frame attached to the 3 m line. Fauna within the quadrat was sampled by scraping the area while simultaneously sucking with the airlift suction device to a depth of 10 cm or until rocky substrate was encountered. Suction was applied until all sediment within a quadrat was removed to the designated depth. All suction samples were collected in 1.0 mm mesh bags and brought to the surface for preservation. On deck, each sample was narcotized with 10% magnesium chloride and preserved in a 10% seawater-Formalin solution.

At each outer-shelf station, where water depth precluded the use of a diver-operated suction device, five quantitative 0.1 m^2 samples were attempted with a Smith-McIntyre grab. Only 33 samples were collected due to ineffective sampling of the grab on hard substrates. After retrieval, each sample was placed on a 1.0 mm sieve and washed to remove the finer sediment prior to preservation in 10% buffered seawater Formalin. Macroinvertebrates collected by suction and grab samplers were identified and counted, except for encrusting fauna which were not easily quantified by counting (e.g., hydroids and colonial corals).

Data Analysis

Community diversity was estimated by the Shannon index (H') (Pielou 1975) in conjunction with species richness (SR) (Margalef 1958), and evenness (J') (Pielou 1975). These measures were computed on data from pooled replicates taken with suction or grab samplers at each station, since pooling the replicates provided a larger sample size and a more representative estimate of community diversity at a site. The degree of dominance at a station was quantified with the dominance index (DI) (McNaughton 1967). For qualitative collections by dredge and trawl, diversity was evaluated by comparing the number of species (s) among stations. The Kruskal-Wallis one-way analysis by ranks (Siegel 1956) was used to determine whether s differed significantly between stations or seasons.

Cluster analysis was used to determine patterns of similarity among stations (pooled replicated collections) and among species using qualitative binary data (i.e., species presence or absence) for dredge and trawl samples, and quantitative abundance data for suction and grab samples. Due to the large number of species in collections made by the various sampling devices, it was necessary to reduce data sets which contained > 200 species prior to cluster analysis in order to remain within the computational limits of available computer programs. Data sets were reduced by both elimination of species which were infrequently collected and elimination of taxa having undetermined or questionable identity. The elimination of these taxa from our data sets was justifiable because "rare" species usually do not have definable distribution patterns and can confuse interpretation of cluster analysis. Data sets subjected to cluster analysis were reduced to include only those species represented in 5 or more dredge collections, 9 or more trawl collections, and 12 or more suction and grab collections.

Species and collections were classified using flexible sorting (Lance and Williams 1967) with a cluster intensity coefficient (β) of -0.25. The Jaccard similarity coefficient (Clifford and Stephenson 1975) was used with presence-absence data collected by dredge and trawl. Species abundance data collected by suction and grab were transformed using $\log_{10}(x + 1)$ and clustered using the Bray-Curtis measure of similarity (Bray and Curtis 1957). Since attribute values covered a wide range, a strong transformation was used to reduce the sensitivity of the Bray-Curtis measure to larger values (Clifford and Stephenson 1975).

Subsequent to cluster analysis, species and station groups were chosen using a variable stopping rule (Boesch 1977). Then nodal analyses (Williams and Lambert 1961; Lambert and Williams 1962) were employed to describe pooled collections at a station in terms of their characteristic species and to describe species groups resulting from inverse cluster analysis in terms of their patterns of occurrence at stations (Boesch 1977). Coincidence of station and

species groups was expressed by graded constancy and fidelity values, which were used to determine those species that were most consistently collected and most restricted to pooled collections at a station. The mathematical definitions for constancy and fidelity are found in Boesch (1977).

RESULTS AND DISCUSSION

Hydrographic Measurements and Description of Study Sites

Hydrographic parameters at the hard-bottom sites were similar to those reported by Wenner et al. (1983). Bottom temperatures on the inner shelf were more extreme (11.7°-27.3°C) than those on the outer shelf (17.0°-23.9°C). Temperatures at middle-shelf sites were similar to those encountered at outer-shelf sites (16.0°-23.4°C). Bottom salinity and dissolved oxygen were generally high at the sites during all seasons, ranging from 34.3 to 36.6‰ and 3.9-6.4 ml/l, respectively.

Television transect videotapes showed that the bottom at station IS01 was smooth, flat, and overlaid by a layer of sand. Sessile invertebrates at IS01 were numerous and uniformly covered the broad expanse of sand-covered hardpan. Station IS02 had a more irregular bottom than IS01 with numerous rock ledges and discontinuous outcroppings up to 1 m in height. These outcroppings were distributed throughout areas of sand and were covered with a dense assemblage of epifauna, particularly adjacent to the ledges.

Middle-shelf sites were characterized as having moderate relief ledges, although there were also areas of low rocky relief interspersed with sand. At MS01, several ledges up to 1 m in height were observed, whereas ledges with a vertical drop of nearly 2 m were observed at MS06. Epifaunal density was usually high on emergent rock of moderate to high relief at MS06.

Outer-shelf stations, which were located in the vicinity of the shelf break, were distinctly different from one another with respect to their bottom topography. Station OS01 was a low relief hardground with only occasional exposed rock of little relief and relatively sparce epifaunal density. In contrast, OS06 was a typical shelf edge reef, with irregular bottom topography characterized by ledges and extensive rock outcropping of moderate to high relief which were often heavily encrusted with invertebrates.

Large Macrofauna Sampled by Dredge and Trawl

Seasonal collections of epifauna from hard-bottom sites sampled by dredge and trawl yielded 432 and 525 taxa, respectively. A list of the identified taxa, arranged phylogenetically for each station and sampling gear, is found in Appendices 1 and 2. The Bryozoa (91 taxa), Porifera (89 taxa), and Cnidaria (70 taxa), dominated dredge collections from all seasons in terms of numbers of taxa. Porifera (111 taxa) were also well represented in trawl collections, along with other taxa such as decapod crustaceans (86 taxa), Bryozoa (85 taxa), and Mollusca (85 taxa). Both the present and previous study (Wenner et al. 1983) of hard-bottom communities have shown that Porifera, Bryozoa, and Cnidaria are the most diverse taxonomic groups encountered.

The only invertebrate groups whose percent contribution of species in dredge and trawl collections changed noticeably across the continental shelf were the Porifera, Cnidaria, and Bryozoa (Table 1). In terms of number of taxa, sponges were most important at sites on the inner shelf. Their richness diminished at middle- and outer-shelf sites where cnidarian and bryozoan taxa dominated. No seasonal trends in percent composition among taxa were noted.

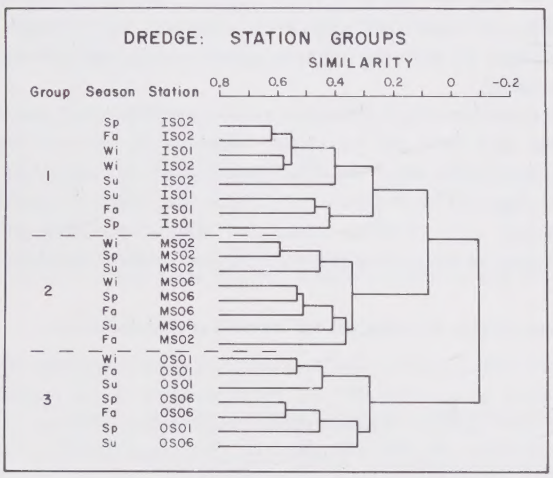
The number of invertebrate taxa (s) collected at each station by dredge and trawl did not change significantly between seasons (Kruskal-Wallis test, $P > 0.05$). These results were consistent with those reported by Wenner et al. (1983) who found no significant difference in s between winter and summer sampling periods. However, in the present study we did find a significant difference

Table 1.—Number of species and percent contribution for each taxonomic group collected by dredge (D) and trawl (T) at each station and season.

		Number samples		Porifera		Cnidaria		Mollusca		Cirripedia		Decapoda		Echino-dermata		Bryozoa		Tunicata		Total
Station	Season	D	T	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	number
IS01	Winter	2	6	45	28.1	26	16.2	16	10.0	4	2.5	15	9.4	8	5.0	29	18.1	17	10.6	160
	Spring	2	6	25	17.9	31	22.1	12	8.6	5	3.6	15	10.7	9	6.4	27	19.3	16	11.4	140
	Summer	2	6	33	20.8	36	22.6	17	10.7	4	2.5	12	7.5	10	6.2	29	18.2	18	11.3	159
	Fall	2	6	21	15.7	42	31.3	10	7.5	5	3.7	12	8.9	6	4.5	25	18.7	13	9.7	134
IS02	Winter	1	5	49	24.4	37	18.4	20	9.9	4	2.0	25	12.4	7	3.5	43	21.4	16	7.9	201
	Spring	2	6	49	25.5	25	13.0	23	11.9	5	2.6	22	11.5	13	6.8	37	19.3	18	9.4	192
	Summer	2	6	40	24.2	37	22.4	15	9.1	4	2.4	20	12.1	7	4.2	28	16.9	14	8.5	165
	Fall	2	6	51	27.4	37	19.8	20	10.8	4	2.1	15	8.1	8	4.3	35	18.8	16	8.6	186
MS02	Winter	1	6	29	17.7	38	23.2	16	9.8	4	2.4	15	9.1	15	9.1	32	19.5	15	9.1	164
	Spring	2	6	30	14.2	37	17.5	28	13.3	5	2.4	29	13.7	10	4.7	50	23.6	22	10.4	211
	Summer	2	6	15	8.8	43	25.1	14	8.2	4	2.3	22	12.9	7	4.1	50	29.2	16	9.4	171
	Fall	2	6	24	14.2	44	26.0	13	7.7	3	1.8	15	8.9	9	5.3	43	25.4	18	10.6	169
MS06	Winter	2	6	20	12.4	43	26.7	15	9.3	3	1.9	17	10.6	6	3.7	49	30.4	8	4.9	161
	Spring	2	6	38	16.2	49	20.8	34	14.5	3	1.3	17	7.2	16	6.8	63	26.8	15	6.4	235
	Summer	2	6	36	20.3	45	25.4	14	7.9	4	2.3	13	7.3	13	7.3	43	24.3	9	5.1	177
	Fall	2	6	38	19.7	46	23.8	16	8.3	3	1.6	18	9.3	8	4.1	54	27.9	10	5.2	193
OS01	Winter	2	6	26	13.7	54	28.4	17	8.9	4	2.1	25	13.2	9	4.7	44	23.2	11	5.8	190
	Spring	2	6	29	15.3	48	25.4	14	7.4	6	3.2	35	18.5	11	5.8	38	20.1	8	4.2	189
	Summer	2	6	28	14.0	53	26.5	16	8.0	5	2.5	39	19.5	13	6.5	38	19.0	8	4.0	200
	Fall	2	6	36	18.7	50	25.9	23	11.9	6	3.1	25	13.0	9	4.7	32	16.6	12	6.2	193
OS06	Winter	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Spring	2	—	—	—	40	38.5	4	3.8	3	2.9	2	1.9	1	0.9	54	51.9	—	—	104
	Summer	1	—	3	3.6	22	26.5	4	4.8	—	—	6	7.2	8	9.6	34	40.9	6	7.2	83
	Fall	2	—	14	11.2	39	31.2	7	5.6	1	0.8	11	8.8	8	6.4	42	33.6	3	2.4	125

in s between stations sampled (Kruskal-Wallis test, $P < 0.01$) by trawl. Although the fewest species were collected at IS01, this is not necessarily indicative of generally lower richness at inner shelf stations, nor do these results imply that s is influenced solely by depth or latitude, since little difference was noted between numbers of species collected at IS02, middle-shelf sites, and OS01. Increases (or decreases) in s are probably also influenced by localized factors at each site such as topographic complexity and habitat heterogeneity. The extensive hard-bottom area of IS01 had little vertical relief compared with IS02, which was characterized by numerous rock ledges supporting dense epifaunal populations. These rock ledges provide complex microhabitats which allow many epifaunal species to coexist (Schoener 1974; Menge and Sutherland 1976). In addition, many sessile species settle in greater abundance on structurally complex substrata because there is more surface area to which they can securely attach (Seed 1976; Russ 1980; Dean 1981).

Normal cluster analysis indicated that pooled replicate dredge and trawl collections were classified into three station groups corresponding to inner-shelf sites (group 1), middle-shelf sites (group 2), and outer-shelf sites (group 3) (Fig. 2). Stations were not grouped in a manner which would indicate that species composition changed seasonally in a consistent pattern. Even within each site group, no grouping of stations by season was evident. This



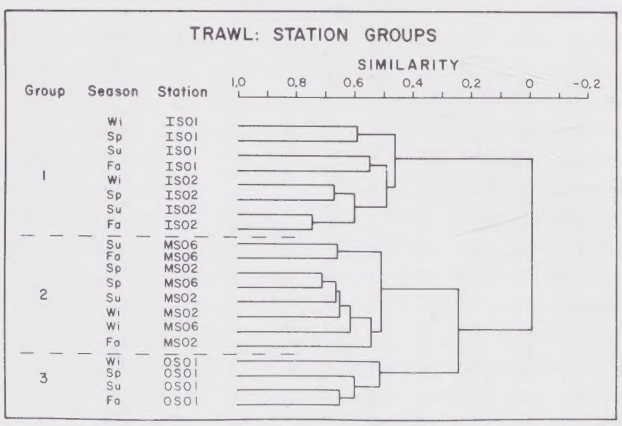


Figure 2.—Normal cluster dendrogram showing station groups formed using the Jaccard similarity coefficient and flexible sorting. Data from replicate dredge and trawl collections were pooled for each station prior to cluster analysis.

suggests that the qualitative composition of the epifaunal community sampled by dredge and trawl was generally similar throughout the year. In addition, there was no indication that stations were grouped in accordance with their latitudinal location on the continental shelf. Comparison with results of normal cluster analysis from the initial study indicates that depth is apparently a more important determinant of faunal composition than season or latitude at hard-bottom sites off South Carolina and Georgia. These results suggest that the epifaunal community of hard-bottom areas are persistent throughout the year. Osman (1977) suggested that changes in the composition of epifaunal invertebrates occur slowly. Growth and reproduction rate of epifauna are reduced during the winter with the result that few new species are added, but several are lost.

Inverse cluster analysis of the 199 most frequently occurring species from seasonal dredge collections formed 10 groups (Table 2). Nodal analysis indicated that the three major branches of the inverse cluster dendrogram represent species assemblages found primarily at inner-shelf sites, those found across the shelf, and those found primarily at middle- and outer-shelf sites (Fig. 3).

Species which were most consistently collected at inner-shelf stations partially comprise groups A, C, and D. However, these assemblages were not restricted to sites on the inner shelf, as indicated by moderate fidelity values. Species in these groups which were collected only at inner-shelf sites included the sponges *Homaxinella waltonsmithi* and *Tedania ignis*; the echinoderms *Lytechinus variegatus*, *Encope michelini*, and *Luidia alternata*; and the mollusk *Pisania tincta*. Except for the sponges *H. waltonsmithi* and *T. ignis*, these species are found on a wide variety of bottom types and are not limited to hard substrates. Although the cluster hierarchy indicated that group B and C species were most similar in their occurrence at hard-bottom sites, the nodal diagram illustrates differences in the distribution of species in these two groups. Species in group B were most constant at station OS01; whereas species in group C were most constant at station IS02.

Species in groups E and F were consistently collected at most sites sampled. Group E species were highly constant at all sites and included the most ubiquitous species collected. Many of the species in this group were dominant epifaunal organisms in terms of their frequency of occurrence at hard-bottom sites across the shelf. However, because of their ubiquity they were not faithful to any site group. Species in group F were also fairly ubiquitous but were more commonly encountered at inner- and middle-shelf sites.

Species groups G-J were most consistently collected at middle- and outer-shelf sites. Group G species displayed high constancy at stations MS02 and MS06; however, the only species in this group which was collected exclusively at middle-shelf hard-bottom stations was the bryozoan *Schizoporella errata*. Group H species also were common at station MS06 but were most consistently encountered at station OS06. Species groups I and J displayed highest constancy and fidelity at outer shelf sites; however, only species in group J were restricted to these locations, as indicated by their very high fidelity values. Species in groups I and J which were collected exclusively at outer-shelf sites included the cnidarians *Balanophyllia floridana*, *Diodogorgia* sp., *Ellisella* sp., and *Stylatula* sp.; the decapod crustaceans *Galathea rostrata*, *Dardanus insignis*, and *Parthenope fraterculus*; the bryozoan *Membranipora arborescens*; and the echinoderm *Astroporpa annulata*.

Comparisons of species assemblages identified by cluster and nodal analyses between the present and the previous study (Wenner et al. 1983) have shown that several species are most frequently encountered in one depth zone. Those which typified

Table 2.—Species groups resulting from numerical classification of data from samples collected by dredge during 1981. (Ar = Arthropoda; Bry = Bryozoa; Ch = Chordata; Cn = Cnidaria; Ech = Echinodermata; Mo = Mollusca; Po = Porifera.)

Group A

Lissodendoryx sigmata (Po)
Clavelina gigantea (Ch)
Scypha barbadensis (Po)
Clathrina cçriacea (Po)
Pilumnus dasypodus (Ar)
Celleporina hassalli (Bry)
Membranipora tenuis (Bry)
Synalpheus minus (Ar)
Distaplia bermudensis (Ch)
Ocnus pygmaeus (Ech)
Homaxinella waltonsmithi (Po)
Lytechinus variegatus (Ech)
Crepidula aculeata (Mo)
Styela partita (Ch)
Celleporaria mordax (Bry)
Bimeria humilis (Cn)
Symplegma viride (Ch)
Tridemnum savignii (Ch)
Homaxinella sp. A (Po)
Diplosoma macdonaldi (Ch)
Eudistoma carolinense (Ch)
Sertularia distans (Cn)

Group B

Microciona prolifera (Po)
Teichaxinella corrugata (Po)
Pseudaxinella lunaecharta (Po)
Arca zebra (Mo)
Axinella bookhouti (Po)
Pandaros acanthifolium (Po)
Diodora cayenensis (Mo)
Murex florifer dilectus (Mo)
Stenocionops furcata coelata (Ar)
Leptogorgia sp. (Cn)
Antipatharia (Cn)
Membraniporella aragoi (Bry)
Eucidaris tribuloides (Ech)
Pachycheles rugimanus (Ar)

Group C

Spheciospongia vesparium (Po)
Lissodendoryx isodictyalis (Po)
Leodia sexiesperforata (Ech)
Cliona caribbaea (Po)
Cinachyra kuekenthali (Po)
Aplysina fistularis (Po)
Aplousina tuberosa (Bry)
Amphimedon compressa (Po)
Thalysias juniperina (Po)
Ircinia strobilina (Po)
Synalpheus townsendi (Ar)
Hiatella arctica (Mo)
Amathia alternata (Bry)
Floridina antiqua (Bry)
Encope michelini (Ech)
Pisania tincta (Mo)
Hemectyon pearsei (Po)
Dromidia antillensis (Ar)
Oculina sp. (Cn)
Halichondria bowerbanki (Po)
Ciocalapata gibbsi (Po)
Ircinia campana (Po)
Ircinia felix (Po)
Arbacia punctulata (Ech)
Higginsia strigilata (Po)
Ircinia ramosa (Po)
Geodia gibberosa (Po)

Group D

Homaxinella rudis (Po)
Cinachyra alloclada (Po)
Spirastrella coccinea (Po)
Cinachyra rhizophyta (Po)
Luidia alternata (Ech)
Tedania ignis (Po)
Phakellia lobata (Po)
Macrocoeloma camptocerum (Ar)
Pseudochama radians (Mo)
Haliclona sp. C (Po)
Nolella stipata (Bry)
Buskia sp. (Bry)
Xytopseus griseus (Po)
Sigmadocia caerula (Po)

Group E

Didemnum candidum (Ch)
Chama congregata (Mo)
Monostaechas quadridens (Cn)
Microporella ciliata (Bry)
Obelia dichotoma (Cn)
Schizoporella cornuta (Bry)
Trypostega venusta (Bry)
Titanideum frauenfeldii (Cn)
Balanus trigonus (Ar)
Halecium sp. (Cn)
Telesto fruticulosa (Cn)
Ophiothrix angulata (Ech)
Dynamena cornicina (Cn)
Crisia sp. (Bry)
Sertularia marginata (Cn)
Bugula rylandi (Bry)
Aglaophenia latecarinata (Cn)
Salacia desmoides (Cn)
Clytia cylindrica (Cn)
Aglaophenia trifida (Cn)
Sertularella conica (Cn)
Sertularella sp. A (Cn)
Dynamena quadridentata (Cn)
Antropora tincta (Bry)
Turbicellepora dichotoma (Bry)
Clytia fragilis (Cn)
Balanus venustus (Ar)
Cribrilaria radiata (Bry)
Microporella umbracula (Bry)
Aetea anguina (Bry)
Amathia distans (Bry)
Celleporaria albirostris (Bry)
Parasmittina spathulata (Bry)
Telesto sanguinea (Cn)
Cleidochasma porcellanum (Bry)
Halecium tenellum (Cn)
Sertularia plumulifera (Cn)
Halecium dysymmetrum (Cn)
Pseudomedaeus agassizii (Ar)

Group F

Haliclona oculata (Po)
Leptogorgia virgulata (Cn)
Vermicularia knorrii (Mo)
Hippaliosina rostrigera (Bry)
Reptadeonella hastingsae (Bry)
Conopea merrilli (Ar)
Pilumnus sayi (Ar)
Celleporaria magnifica (Bry)
Styela plicata (Ch)
Pteria colymbus (Mo)
Molgula occidentalis (Ch)
Modiolus americanus (Mo)
Arca imbricata (Mo)
Lophogorgia hebes (Cn)
Mithrax pleuracanthus (Ar)
Eudendrium carneum (Cn)

Group G

Synthecium tubitheca (Cn)
Petraliella bisinuata (Bry)
Bugula fulva (Bry)
Schizoporella floridana (Bry)
Aeverrillia setigera (Bry)
Thyroscyphus marginatus (Cn)
Chaperia sp. (Bry)
Diaperoecia floridana (Bry)
Parellisina curvirostris (Bry)
Cupuladria doma (Bry)
Cupuladria canariensis (Bry)
Crepidacantha poissoni teres (Bry)
Megalobrachium soriatum (Ar)
Smittina smittiella (Bry)
Schizoporella errata (Bry)
Leuconia aspera (Po)
Lyonsia beana (Mo)
Alcyonidium sp. (Bry)
Podochela riisei (Ar)
Gonodactylus bredini (Ar)

Group H

Parellisina latirostris (Bry)
Nellia tenella (Bry)
Nemertesia simplex (Cn)
Caberia boryi (Bry)
Microporella marsupiata (Bry)
Proboscina floridana (Bry)
Gymnangium sinuosum (Cn)
Cribrilaria floridana (Bry)
Lichenopora radiata (Bry)
Exochella longirostris (Bry)
Clypeaster subdepressus (Ech)
Floridina parvicella (Bry)
Turritopsis nutricula (Cn)
Hincksella cylindrica (Cn)

Group I

Bougainvillia sp. (Cn)
Sertularella areyi (Cn)
Antenella secundaria (Cn)
Eudendrium tenellum (Cn)
Dynamena dalmasi (Cn)
Balanus calidus (Ar)
Aplousina gigantea (Bry)
Filellum serratum (Cn)
Stylopoma informata (Bry)
Smittipora levinseni (Bry)
Campanularia hincksii (Cn)
Thesea sp. (Cn)
Hippoporina contracta (Bry)
Scandia mutabilis (Cn)
Hebella venusta (Cn)
Hebella scandens (Cn)
Mithrax acuticornis (Ar)
Galathea rostrata (Ar)
Amathia convoluta (Bry)
Alderina smitti (Bry)
Ctenostomata (Bry)
Scrupocellaria regularis (Bry)
Aglaophenia elongata (Cn)

Group J

Dardanus insignis (Ar)
Membranipora arborescens (Bry)
Halopteris clarkei (Cn)
Cycloperiella rubra (Bry)
Astroporpa annulata (Ech)
Stylatula sp. (Cn)
Balanophyllia floridana (Cn)
Ellisella sp. (Cn)
Diodogorgia sp. (Cn)
Parthenope fraterculus (Ar)

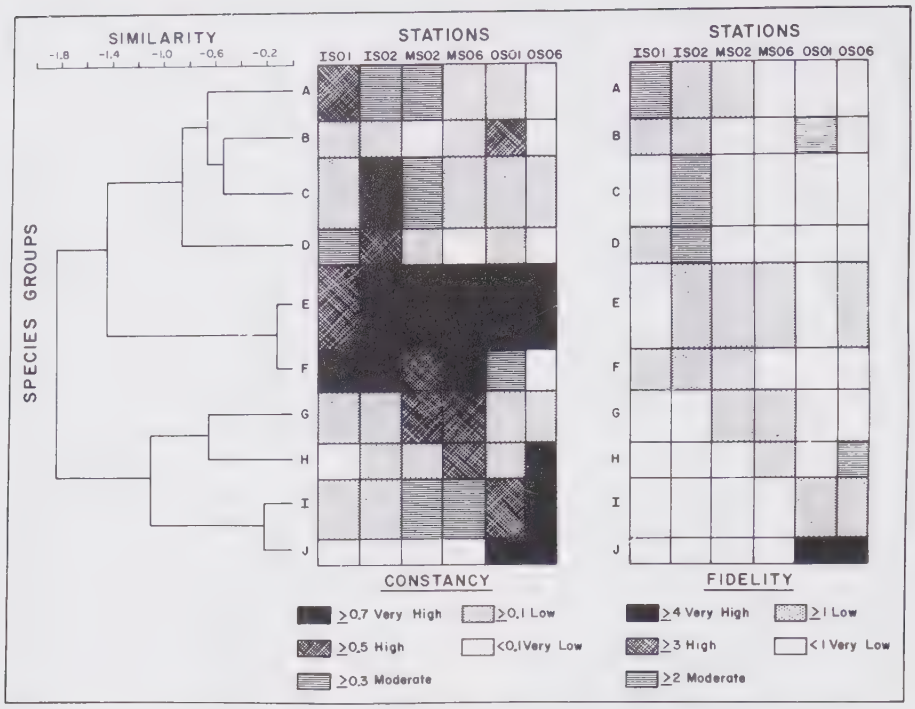


Figure 3.—Inverse classification hierarchies and nodal diagram showing constancy and fidelity of station-species group coincidence based on seasonal dredge collections.

inner-shelf hard-bottom sites included the sponges *Homaxinella waltonsmithi*, *Spheciospongia vesparium*, *Cliona caribbaea*, and *Halichondria bowerbanki*; the echinoderms *Encope michelini*, *Lytechinus variegatus*, *Ocnus pygmaeus*, and *Arbacia punctulata*; the bryozoan *Membranipora tenuis*; and the decapod crustacean *Synalpheus minus*. Middle-shelf hard-bottom sites were characterized by the bryozoans *Chaperia* sp., *Aeverrillia setigera*, *Schizoporella floridana*, *Petraliella bisinuata*, and *Parellisina curvirostris*; and the hydroids *Thyroscyphus marginatus* and *Synthecium tubitheca*. Species which were consistently collected at outer-shelf sites during both years of sampling by dredge included the bryozoans *Smittipora levinseni*, *Stylopoma informata*, *Cribrilaria floridana*, and *Cycloperiella rubra*; the hydroids *Dynamensa dalmasi* and *Filellum serratum*; the echinoderm *Astroporpa annulata*; and the decapod crustacean *Mithrax acuticornis*. Few species assemblages identified by cluster analysis of dredge samples were restricted to any one depth zone or hard-bottom site. This suggests that few species assemblages, other than those displaying high fidelity values in nodal diagrams, could be considered characteristic of a particular depth zone in the South Atlantic Bight.

Inverse cluster analysis of 184 species from seasonal trawl collections produced seven groups. Species and site group coincidences were interpreted in terms of nodal constancy and fidelity (Table 3, Fig. 4). Group A contained species which were characteristic of inner-shelf stations and station MS06. Species in group B also displayed high constancy for inner-shelf stations; however, no species in either group were restricted to specific hard-bottom sites. Only the tunicate Ascidiacea A was collected exclusively at inner-shelf sites.

Groups C, D, and E were composed of species which were fairly ubiquitous at hard-bottom sites across the shelf. Species in group C were highly constant at inner- and middle-shelf stations, whereas those in group D were consistently collected at every live-bottom site sampled. This group contained many of the most frequently occurring epifaunal species collected during the study. Group E contained species which displayed high constancy at stations IS02, MS02, and MS06. Species in group F were highly constant at station MS06, but were not restricted to this station. Those species in group G were most frequently collected at both middle-shelf sites and at the outer-shelf station. As indicated by the inverse dendrogram, species in group H, which were highly constant at station OS01, were least similar to other groups in terms of their distribution. Several species, such as the bryozoans *Aplousina gigantea* and *Cycloperiella rubra*, the octocoral *Ellisella* sp., and the decapod crustacean *Mesopenaeus tropicalis*, were collected only at station OS01.

No species assemblage identified from our study was restricted to specific hard-bottom sites. However, comparison of species assemblages from cluster analysis of winter and summer from the first-year study (Wenner et al. 1983) with seasonal data from the present study show that the following species formed a consistently recurring assemblage on the inner shelf: The bryozoans *Scrupocellaria regularis* and *Hippoporina contracta*; the echinoderm *Ocnus pygmaeus*; and the crustaceans *Synalpheus longicarpus*, *S. minus*, *Pilumnus pannosus*, *Megalobrachium soriatum*, *Trachypenaeus constrictus*, and *Conopea galeata*. Other species, such as the cnidarian *Sertularella areyi*; the echinoderm *Astroporpa annulata*; the sponges *Xytopsues griseus* and *Sigmadocia caerula*; and the decapod crestaceans *Mesopenaeus tropicalis*, *Sicyonia brevirostris*, and *Solenocera atlantidis*, were consistently collected during both years at outer-shelf sites. These findings suggest that there is no sharp bathymetric zonation of epifaunal species groups in hard-bottom habitats of the South

Table 3.—Species groups resulting from numerical classification of data from samples collected by trawl during 1981. (Ar = Arthropoda; Bry = Bryozoa; Ch = Chordata; Cn = Cnidaria; Ech = Echinodermata; Mo = Mollusca; Po = Porifera.)

Group A

Anthosigmella varians (Po)
Asterias forbesii (Ech)
Cinachyra alloclada (Po)
Pandaros acanthifolium (Po)
Leuconia aspera (Po)
Crassimarginatella leucocypha (Bry)
Trypostega venusta (Bry)
Microporella umbracula (Bry)
Homaxinella waltonsmithi (Po)
Higginsia strigilata (Po)
Lytechinus variegatus (Ech)
Ciocalapata gibbsi (Po)
Cribrilaria radiata (Bry)
Amphimedon compressa (Po)
Reptadeonella hastingsae (Bry)
Microciona prolifera (Po)
Myriastra fibrosa (Po)

Group B

Scrupocellaria regularis (Bry)
Gymnangium sinuosum (Cn)
Hemectyon pearsei (Po)
Spirastrella coccinea (Po)
Ascidiacea A (Ch)
Cliona caribbaea (Po)
Clathrina coriacea (Po)
Trachypenaeus constrictus (Ar)
Nolella stipata (Bry)
Synalpheus longicarpus (Ar)
Synalpheus minus (Ar)
Pilumnus dasypodus (Ar)
Celleporaria mordax (Bry)
Styela partita (Ch)
Pilumnus pannosus (Ar)
Conopea galeata (Ar)
Ocnus pygmaeus (Ech)
Podochela riisei (Ar)
Macrocoeloma trispinosum (Ar)
Botryllus planus (Ch)
Megalobrachium soriatum (Ar)
Scypha barbadensis (Po)
Sundanella sibogae (Bry)
Hippoporina contracta (Bry)
Symplegma viride (Ch)
Botrylloides nigrum (Ch)
Membranipora tenuis (Bry)

Group C

Styela plicata (Ch)
Mithrax pleuracanthus (Ar)
Molgula occidentalis (Ch)
Pilumnus sayi (Ar)
Leptogorgia virgulata (Cn)
Spheciospongia vesparium (Po)
Sertularella conica (Cn)
Crisia sp. (Bry)
Synalpheus townsendi (Ar)
Distaplia bermudensis (Ch)
Diodora cayenensis (Mo)
Diplosoma macdonaldi (Ch)
Lophogorgia hebes (Cn)
Arbacia punctulata (Ech)
Antropora tincta (Bry)
Haliclona oculata (Po)
Sertularia distans (Cn)
Cinachyra kuekenthali (Po)
Arca imbricata (Mo)

Group D

Salacia desmoides (Cn)
Amathia distans (Bry)
Eudendrium sp. (Cn)
Parasmittina spathulata (Bry)
Ophiothrix angulata (Ech)
Thalysias juniperina (Po)
Halecium dysymmetrum (Cn)
Hippaliosina rostrigera (Bry)
Sertularia plumulifera (Cn)
Telesto sanguinea (Cn)
Balanus venustus (Ar)
Dynamena cornicina (Cn)
Dynamena quadridentata (Cn)
Eudendrium carneum (Cn)
Conopea merrilli (Ar)
Aetea anguina (Bry)
Turbicellepora dichotoma (Bry)
Pteria colymbus (Mo)
Balanus trigonus (Ar)
Schizoporella cornuta (Bry)
Microporella ciliata (Bry)
Halecium sp. (Cn)
Sertularia marginata (Cn)
Monostaechas quadridens (Cn)
Aglaophenia trifida (Cn)
Titanideum frauenfeldii (Cn)
Obelia dichotoma (Cn)
Telesto fruticulosa (Cn)
Didemnum candidum (Ch)
Scandia mutabilis (Cn)
Clytia cylindrica (Cn)
Dromidia antillensis (Ar)

Group E

Ircinia campana (Po)
Pisantia tincta (Mo)
Ircinia strobilina (Po)
Aplysina fistularis (Po)
Lissodendoryx isodictyalis (Po)
Homaxinella sp. A (Po)
Chama congregata (Mo)
Ircinia ramosa (Po)
Ircinia felix (Po)

Group F

Steganoporella magnilabris (Bry)
Neofibularia nolitangere (Po)
Smittina smittiella (Bry)
Strongylophora sp. B (Po)
Caberia boryi (Bry)
Callyspongia fallax (Po)
Pilumnus floridanus (Ar)
Geodia gibberosa (Po)
Alpheus formosus (Ar)
Schizoporella errata (Bry)
Clavelina gigantea (Ch)
Crepidula aculeata (Mo)

Group G

Eudendrium tenellum (Cn)
Bimeria humilis (Cn)
Bougainvillia sp. (Cn)
Hiatella arctica (Mo)
Sertularella sp. A (Cn)
Clytia fragilis (Cn)
Celleporaria magnifica (Bry)
Ctenostomata (Bry)
Amathia alternata (Bry)
Stenocionops furcata coelata (Ar)
Aglaophenia elongata (Cn)
Filellum serratum (Cn)
Diaperoecia floridana (Bry)
Pseudomedaeus agassizii (Ar)
Dynamena dalmasi (Cn)
Pachycheles rugimanus (Ar)
Scyllarides nodifer (Ar)
Parellisina curvirostris (Bry)
Polyandrocarpa floridana (Ch)
Thyroscyphus marginatus (Cn)
Schizoporella floridana (Bry)
Hebella scandens (Cn)
Synthecium tubitheca (Cn)
Aglaophenia allmani (Cn)
Metapenaeopsis goodei (Ar)
Campanularia hincksii (Cn)
Astrophyton municatum (Ech)
Hebella venusta (Cn)
Petraliella bisinuata (Bry)
Halecium tenellum (Cn)
Celleporaria albirostris (Bry)
Plumularia setacea (Cn)
Hincksella cylindrica (Cn)
Lissodendoryx sigmata (Po)
Aglaophenia latecarinata (Cn)
Bugula rylandi (Bry)
Chaperia sp. (Bry)
Bugula fulva (Bry)
Aeverillia setigera (Bry)
Celleporina hassalli (Bry)
Muricea pendula (Cn)
Bugula microoecia (Bry)

Group H

Ellisella sp. (Cn)
Aplousina gigantea (Bry)
Mesopenaeus tropicalis (Ar)
Sertularella areyi (Cn)
Stylatula sp. (Cn)
Cladocarpus flexilis (Cn)
Diodogorgia sp. (Cn)
Halopteris clarkei (Cn)
Cycloperiella rubra (Bry)
Stylopoma informata (Bry)
Antipatharian (Cn)
Sicyonia brevirostris (Ar)
Alcyonidium sp. (Bry)
Haliclona sp. C (Po)
Leptogorgia sp. (Cn)
Turritopsis nutricula (Cn)
Thesea sp. (Cn)
Astroporpa annulata (Ech)
Solenocera atlantidis (Ar)
Nellia tenella (Bry)
Xytopsues griseus (Po)
Teichaxinella corrugata (Po)
Sigmadocia caerula (Po)
Axinella bookhouti (Po)
Halichondria bowerbanki (Po)
Balanus calidus (Ar)

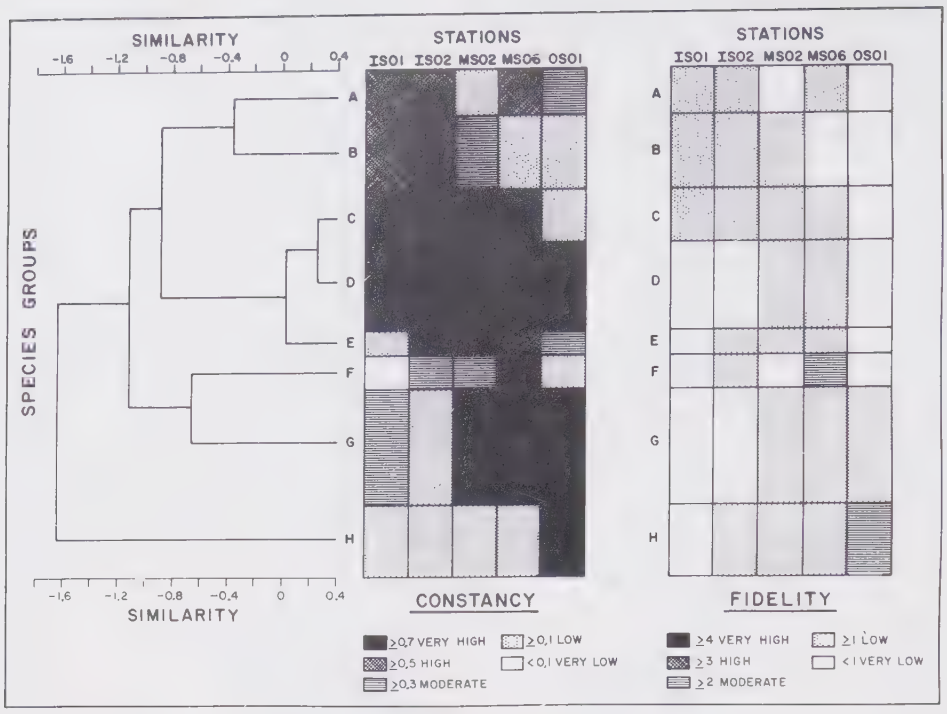


Figure 4.—Inverse classification hierarchies and nodal diagram showing constancy and fidelity of station-species group coincidence based on seasonal trawl collections.

Atlantic Bight. However, the least similarity in species composition apparently occurs between inner- and outer-shelf sites while middle-shelf sites represent a transition zone between the other strata.

Biomass of Larger Macroinvertebrates

Comparisons of total biomass between taxa showed that Porifera were dominant at all stations during each season, except at station MS06 in spring, when biomass of Ascidiacea was highest (Table 4). These results are similar to those reported by Wenner et al. (1983) who found that Porifera accounted for a large percentage of the total invertebrate biomass from both the dredge and trawl collections. In the present study, the seasonal contribution of Porifera to the total biomass of invertebrates collected by dredge and trawl was as follows: Winter (78%), spring (59%), summer (67%), and fall (76%). The only taxa other than sponges and tunicates which formed a significant component of sample biomass in dredge or trawl collections were anthozoans and mollusks.

Analysis of variance of logarithmically transformed biomass values from replicate samples (OS06 excluded) indicated no significant difference in biomass between seasons for invertebrates collected by dredge or trawl ($P > 0.05$). Because many of the large macrofauna sampled by dredge and trawl, such as sponges, appear to persist throughout the year, major changes in biomass were not observed. Undoubtedly, our sampling methods were not refined enough to detect minor seasonal changes in biomass due to growth or mortality.

Significant differences in biomass were noted between stations ($P < 0.05$) for dredge-collected invertebrates, with the greatest average biomass recorded at stations IS02 ($\bar{x} = 22.3$ kg) and IS01 ($\bar{x} = 13.6$ kg). The lowest biomass of invertebrates collected by dredge occurred at station MS06 ($\bar{x} = 4.9$ kg). Low biomass at this station is probably related to the patchy occurrence of invertebrates. Television transects showed that epifaunal organisms were sparse over parts of this station, with large expanses of sand interspersed with patches of live bottom. In addition, some sampling bias may have resulted from limiting dredge tows at MS02 and MS06 to areas of low relief. Since epifaunal growth was most dense on moderate to high relief ledges and rocks, an underestimation of biomass may have resulted from avoiding these areas.

Biomass values for trawl-collected invertebrates were greatest at an inner-shelf site, which is consistent with results from the initial study (Wenner et al. 1983). Among stations sampled by trawl (OS06 excluded), average biomass values were significantly greater ($P < 0.001$) at IS02 ($\bar{x} = 35.8$ kg), MS02 ($\bar{x} = 23.2$ kg), and IS01 ($\bar{x} = 10.6$ kg). The lowest average biomass was recorded at station OS01 ($\bar{x} = 3.2$ kg).

Smaller Macroinvertebrates Sampled by Suction and Grab

A total of 845 taxa was collected during seasonal sampling with suction sampler and grab. A listing of all fauna collected, including their ranks by abundance and density at each station, is presented in Appendix 3. The phylum Annelida, which was represented by more species than any other group during the initial study (Wenner et al. 1983), was also the most diverse group in the present study, where it contained 285 species. Annelids also dominated collections in terms of numerical abundance, accounting for 72.4% of the total 60,739 invertebrate specimens taken by suction sampler and grab. Mollusks ranked second among major

Table 4 —Percent contribution to epifaunal biomass of taxonomic groups in dredge (D) and trawl (T) collections. Percent of the total biomass for both gear types is also shown. The mean ($\bar{x}$), standard deviation (SD), and number of samples (n) for which biomass measurements were taken are shown.

Season		IS01			IS02			MS02			MS06			OS01			OS06		
		D	T	Total	D	T	Total	D	T	Total	D	T	Total	D	T	Total	D	T	Total
Winter																			
Porifera		27	66	54	58	89	86	13	86	85	45	85	84	30	37	34			
Hydroidea		<1	<1	<1	<1	<1	<1	3	<1	<1	2	<1	<1	2	1	2			
Anthozoa		38	4	14	9	2	3	14	2	3	3	2	2	37	15	23			
Mollusca		6	1	3	18	<1	2	24	<1	1	36	1	2	15	5	8			
Decapoda		<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	2	2	2			
Echinodermata		5	1	3	7	1	2	21	1	2	6	<1	<1	14	13	14			
Ascidiacea		24	26	25	7	7	7	25	9	9	7	11	11	<1	27	18			
Other Invertebrata		0	0	0	0	<1	<1	0	0	0	0	0	0	0	0	0			
Total biomass (kg)	Σ	47.80	111.09	158.89	29.55	284.64	314.19	2.47	179.54	182.01	1.09	77.79	78.88	6.27	11.94	18.22			
	$\bar{x}$	23.90	18.50	19.86	—	56.93	52.36	—	29.90	26.00	0.55	12.96	9.86	3.14	1.99	2.28	Not sampled		
	SD	15.33	10.78	11.08	—	45.01	41.45	—	38.08	36.28	0.52	11.96	11.63	0.62	1.76	1.59			
	n	2	6	8	1	5	6	1	6	7	2	6	8	2	6	8			
Spring																			
Porifera		60	43	51	57	65	62	32	75	70	25	32	31	<1	65	57	0		
Hydroidea		<1	1	1	0	<1	<1	1	<1	<1	<1	<1	1	2	4	4	5		
Anthozoa		9	1	5	6	2	4	18	4	5	5	3	4	41	6	10	65		
Mollusca		7	1	4	11	1	4	8	2	3	35	10	13	1	<1	<1	17		
Decapoda		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	11	9	24	16	17	12		
Echinodermata		4	1	2	6	1	3	2	4	4	10	7	7	31	8	10	1		
Ascidiacea		20	52	37	20	30	27	38	15	17	25	37	35	<1	1	1	0		
Total biomass (kg)	Σ	36.53	42.76	79.29	78.14	191.34	269.48	14.29	108.13	122.42	7.98	48.10	56.08	3.12	23.38	26.50	0.16	Not sampled	—
	$\bar{x}$	18.26	7.13	9.91	39.07	31.90	33.68	7.14	18.02	15.30	3.99	8.02	7.01	0.27	3.99	3.55	0.08		—
	SD	1.17	5.88	7.18	10.33	15.76	14.27	5.50	12.24	11.69	4.75	5.71	5.48	1.56	3.89	3.31	0.04		—
	n	2	6	8	2	6	8	2	6	8	2	6	8	2	6	8	2		—
Summer																			
Porifera		52	31	36	29	73	72	2	74	70	84	77	77	80	36	46	49		
Hydroidea		<1	2	1	1	<1	1	9	2	2	<1	<1	<1	0	2	2	12		
Anthozoa		5	4	5	12	2	2	1	10	10	6	2	2	14	13	13	21		
Mollusca		6	22	18	7	1	1	2	<1	<1	3	<1	1	<1	<1	<1	6		
Decapoda		<1	<1	<1	<1	<1	<1	<1	2	2	<1	2	2	<1	6	5	<1		
Echinodermata		4	4	4	6	1	1	3	2	2	<1	13	12	2	29	23	11		
Ascidiacea		33	36	36	44	23	23	82	10	14	6	6	6	3	13	11	1		
Total biomass (kg)	Σ	11.45	37.74	49.19	6.22	288.89	295.09	5.12	88.74	93.87	2.90	42.71	45.61	4.62	14.90	19.52	1.54		1.54
	$\bar{x}$	5.73	6.30	6.15	3.11	48.15	36.89	2.56	14.79	11.73	1.45	7.12	5.70	2.31	2.48	2.44	—		—
	SD	4.86	3.10	3.22	3.35	33.45	35.15	3.30	19.73	17.66	1.17	10.41	9.20	2.91	1.73	1.83	—		—
	n	2	6	8	2	6	8	2	6	8	2	6	8	2	6	8	1		1
Fall																			
Porifera		20	76	66	66	45	54	68	88	86	95	93	93	40	54	50	36		
Hydroidea		1	<1	<1	<1	<1	<1	3	2	2	<1	<1	<1	<1	<1	1	3		
Anthozoa		38	2	9	4	5	5	1	3	3	<1	1	1	10	9	9	25		
Mollusca		8	1	2	6	1	4	6	<1	1	2	1	1	35	1	12	18		
Decapoda		<1	<1	<1	<1	<1	<1	<1	1	1	0	<1	<1	4	20	14	5		
Echinodermata		2	1	1	8	3	5	4	2	2	1	2	2	2	15	11	11		
Ascidiacea		30	19	21	15	44	32	18	4	5	1	3	3	9	0	3	2		
Total biomass (kg)	Σ	13.08	61.63	74.72	42.34	56.31	98.64	16.53	157.30	173.83	27.18	90.30	117.48	12.42	25.47	37.89	0.99		
	$\bar{x}$	6.54	10.27	9.34	21.17	9.38	12.33	8.26	26.22	21.73	13.59	15.05	14.68	6.21	4.24	4.74	0.50		
	SD	5.10	8.54	7.67	7.95	6.64	8.38	4.04	34.04	29.98	14.17	16.09	14.64	1.59	4.23	3.74	0.37		
	n	2	6	8	2	6	8	2	6	8	2	6	8	2	6	8	2		

taxonomic groups with a total of 251 species; however, mollusks accounted for only 4.3% of the total number of invertebrate specimens and were outranked by amphipods (100 species) which represented 13.3% of total invertebrate abundance. Other groups represented in suction and grab collections included decapod crustaceans (111 species), arthropods other than amphipods and decapods (49 species), echinoderms (39 species), nemerteans (3 species), and sipunculans (7 species). Many of the taxa collected by suction and grab represent sand-bottom species which are also common at the hard-bottom sites, since there is generally a sand layer covering the rock bottom.

The 10 invertebrate species which numerically outranked others at the hard-bottom sites during all seasons were the polychaetes *Filograna implexa* (n = 30,346), *Pista palmata* (n = 1,439), *Syllis spongicola* (n = 1,358), *Spiophanes bombyx* (n = 650), *Chone americana* (n = 543), *Malacoceros glutaeus* (n = 535), and *Exogone dispar* (n = 482); and the amphipods *Luconacia incerta* (n = 907), *Photis* sp. (n = 631), and *Erichthonius brasiliensis* (n = 523). These species accounted for about 62% of all invertebrate specimens caught in suction and grab samples.

Densities of the 10 numerically dominant species changed seasonally and bathymetrically. In winter, the amphipods *Luconacia incerta*, *Photis* sp., and *Erichthonius brasiliensis* were important at inner-shelf sites (Table 5). Their densities at these sites decreased in spring; and during the rest of the year <5 individuals/0.1 m² were collected. The density of *F. implexa* was high in fall, when approximately 182 individuals/0.1 m² were collected at IS01. Another species whose density was highest in fall on the inner shelf was the polychaete *Syllis spongicola*. However,

Table 5.—Average density ($\bar{x}$) expressed as number per 0.1 m², and percent of total number (%) for 10 numerically dominant invertebrates collected by suction and grab. Number of collections (n) is indicated.

	IS01 (n = 5)		IS02 (n = 5)		MS02 (n = 5)		MS06 (n = 5)		OS01 (n = 3)		OS06 (n = 5)	
Species	$\bar{x}$	%	$\bar{x}$	%	$\bar{x}$	%	$\bar{x}$	%	$\bar{x}$	%	$\bar{x}$	%
	Winter											
Filograna implexa	3.2	<1	0.4	<1	53.2	8.9	0.6	<1	—	—		
Pista palmata	0.2	<1	0.8	<1	1.4	<1	2.2	<1	20.33	20.4		
Syllis spongicola	6.6	1.6	1.4	<1	35.4	5.9	16.0	4.2	—	—		
Luconacia incerta	22.6	5.6	68.0	15.8	17.8	2.9	45.0	11.9	—	—		
Spiophanes bombyx	4.6	1.2	0.4	<1	3.0	<1	9.4	2.5	17.66	17.7		
Photis sp.	24.8	6.2	20.4	4.7	31.8	5.3	2.0	<1	3.66	3.7		
Chone americana	4.4	1.1	—	—	7.8	1.3	5.2	1.4	0.33	<1		
Malacoceros glutaeus	0.4	<1	0.2	<1	19.0	3.2	6.2	1.6	—	—		
Erichthonius brasiliensis	41.0	10.2	27.0	6.3	2.0	<1	0.2	<1	—	—		
Exogone dispar	16.8	4.2	6.6	1.5	18.0	3.0	7.2	1.9	—	—		
	Spring											
Filograna implexa	—	—	0.2	<1	1,084.4	66.2	0.2	<1	—	—	34.6	14.2
Pista palmata	—	—	0.4	<1	1.8	<1	—	—	248.4	43.3	2.0	<1
Syllis spongicola	4.8	2.4	1.2	<1	17.2	1.0	0.2	<1	7.6	1.3	4.4	1.8
Luconacia incerta	4.6	2.2	2.0	<1	7.0	<1	3.4	1.8	—	—	1.0	<1
Spiophanes bombyx	0.4	<1	0.2	<1	2.4	<1	22.2	11.6	48.8	8.5	4.4	1.8
Photis sp.	0.8	<1	10.8	3.7	4.2	<1	2.4	1.3	15.8	2.7	0.6	<1
Chone americana	1.8	<1	0.4	<1	41.2	2.5	3.8	2.0	0.6	<1	2.8	1.1
Malacoceros glutaeus	0.2	<1	0.4	<1	11.6	<1	2.0	1.0	—	—	—	—
Erichthonius brasiliensis	3.4	1.7	16.8	5.7	1.6	<1	0.6	<1	1.4	<1	0.4	1
Exogone dispar	4.6	2.2	6.0	2.0	8.4	<1	0.6	<1	—	—	—	—
	Summer											
Filograna implexa	0.2	<1	—	—	0.2	<1	1.6	<1	—	—	1.0	<1
Pista palmata	—	—	—	—	1.0	<1	0.8	<1	14.0	10.1	0.2	<1
Syllis spongicola	14.8	10.4	3.6	2.2	7.4	3.7	6.6	2.8	8.0	5.7	2.0	1.5
Luconacia incerta	0.8	<1	0.2	<1	0.8	<1	0.4	<1	—	—	—	—
Spiophanes bombyx	0.2	<1	0.2	<1	0.6	<1	1.6	<1	11.6	8.4	—	—
Photis sp.	0.8	<1	—	—	—	—	0.2	<1	—	—	3.0	2.2
Chone americana	1.4	1.0	—	—	1.0	<1	24.6	10.4	0.2	<1	4.6	3.4
Malacoceros glutaeus	2.8	1.9	1.8	1.1	2.4	1.2	8.8	3.7	0.2	<1	—	—
Erichthonius brasiliensis	4.0	2.8	—	—	0.2	<1	0.4	<1	0.4	<1	0.2	<1
Exogone dispar	1.6	1.1	1.2	<1	0.8	<1	2.0	<1	—	—	0.2	<1
	Fall											
Filograna implexa	182.4	41.4	2.4	2.2	531.6	55.4	4,155.0	93.0	—	—	18.0	24.6
Pista palmata	0.4	<1	0.2	<1	0.4	—	1.2	<1	—	—	0.2	<1
Syllis spongicola	55.0	12.5	1.6	1.5	44.6	4.6	20.2	<1	10.0	13.4	3.0	4.1
Luconacia incerta	3.6	<1	0.4	<1	3.0	—	0.8	<1	—	—	—	—
Spiophanes bombyx	—	—	0.8	<1	1.8	—	1.6	<1	5.0	6.7	0.2	<1
Photis sp.	1.6	<1	0.4	<1	4.4	<1	—	—	—	—	—	—
Chone americana	1.8	<1	—	—	3.4	<1	2.4	<1	0.4	<1	0.6	<1
Malacoceros glutaeus	5.4	1.2	7.0	6.4	36.8	3.8	1.8	<1	—	—	—	—
Erichthonius brasiliensis	1.0	<1	0.4	<1	3.2	<1	0.4	<1	—	—	—	—
Exogone dispar	14.2	3.2	2.8	2.6	3.8	<1	1.6	<1	—	—	—	—

neither of these species was consistently abundant at both inner-shelf sites.

Filograna implexa was the dominant species at middle-shelf sites (Table 6). The maximum density of *F. implexa* occurred in fall at MS06 when 4,155 individuals/0.1 m^2 were collected (Table 5). The high densities of *F. implexa* which were observed at mid-shelf sites did not occur on the outer shelf (Table 6). Species which were important at these deeper sites were the polychaetes *Pista palmata* and *Spiophanes bombyx*, with the highest densities for both occurring in spring.

Comparisons with results presented by Wenner et al. (1983) confirm that *F. implexa* is the numerically dominant invertebrate at middle-shelf sites. However, its importance at outer-shelf sites was considerably diminished during the second year of sampling when numbers of *Pista palmata* exceeded those of other species collected. *Filograna implexa* was also important on the inner shelf, but densities did not approach those noted in previous collections from these sites.

Other investigators (Frankenberg 1971; Frankenberg and Leiper 1977; Tenore 1978) have noted that density variation over space and time is typical of numerically dominant species in soft-bottom communities on the continental shelf off Georgia. Wenner et al. (1983) speculated that variable abundances of benthic invertebrates could be influenced by 1) differentially successful and sequential recruitment by larvae of various species; 2) predation, especially by fishes; and 3) differing microhabitats within and between sites.

Predation could influence the communities in this study since it has been found to be a major factor affecting benthic populations in soft- and hard-bottom communities of the intertidal zone (Paine 1966; Peterson 1977). However, studies on the effects of predation on the continental shelf are limited and largely conjectural. Frankenberg and Leiper (1977) hypothesized that fishes remove large numbers of small crustaceans, such as cumaceans and amphipods, from benthic assemblages. Predation on benthos can also be expected to alter species composition, resulting in greater abundance of those species having higher intrinsic rates of population increase (Slobodkin 1961); and, furthermore, a selective preference of predators for soft forms such as crustaceans or polychaetes may shift species composition toward forms with exoskeletons which are more resistant to predation (e.g., mollusks) (Richards 1963). Examination of stomach contents of 10 species of fishes known to inhabit live-bottom areas showed that amphipods, polychaetes, and decapods were most heavily preyed upon, including the numerically dominant species *Exogone dispar* and *Erichthonius brasiliensis* (G. Sedberry[3]).

[3]G. Sedberry, Assistant Marine Scientist, Marine Resources Research Institute, Box 12559, Charleston, SC 29412, pers. commun. January 1983.

Table 6.—The 10 most abundant invertebrate species collected by suction and grab samplers at each station. (An = Annelida; Ar = Arthropoda; Ech = Echinodermata; Si = Sipunculida.)

Species	Total number	Percent of total	Species	Total number	Percent of total
	IS01			IS02	
Filograna implexa (An)	929	15.6	*Luconacia incerta* (Ar)	353	7.1
Syllis spongicola (An)	406	6.8	*Elasmopus* sp. A (Ar)	225	4.5
Erichthonius brasiliensis (Ar)	247	4.2	*Erichthonius brasiliensis* (Ar)	221	4.4
Axiothella mucosa (An)	246	4.1	*Lembos smithi* (Ar)	179	3.6
Exogone dispar (An)	186	3.1	*Caprella equilibra* (Ar)	165	3.3
Luconacia incerta (Ar)	158	2.7	*Podocerus* sp. (Ar)	160	3.2
Ampharete americana (An)	143	2.4	*Photis* sp. (Ar)	158	3.2
Photis sp. (Ar)	140	2.4	*Leptochelia* sp. (Ar)	127	2.6
Elasmopus sp. A (Ar)	130	2.2	*Lumbrineris inflata* (An)	109	2.2
Gammaropsis sp. (Ar)	105	1.8	*Polycirrus carolinensis* (An)	84	1.7
	MS02			MS06	
Filograna implexa (An)	8,347	49.2	*Filograna implexa* (An)	20,787	78.8
Syllis spongicola (An)	523	3.1	*Luconacia incerta* (Ar)	248	0.9
Malacoceros glutaeus (An)	349	2.1	*Syllis spongicola* (An)	215	0.8
Chone americana (An)	267	1.6	*Chone americana* (An)	180	0.7
Ophiothrix angulata (Ech)	203	1.2	*Spiophanes bombyx* (An)	174	0.7
Photis sp. (Ar)	202	1.2	*Syllis hyalina* (An)	173	0.7
Acanthohaustorius millsi (Ar)	195	1.2	*Aspidosiphon gosnoldi* (Si)	120	0.5
Megalobrachium soriatum (Ar)	192	1.1	*Polydora colonia* (An)	107	0.4
Lumbrineris inflata (An)	165	1.0	*Autolytus* sp. (An)	96	0.4
Exogone dispar (An)	155	0.9	*Malacoceros glutaeus* (An)	94	0.4
	OS01			OS06	
Pista palmata (An)	1,373	32.4	*Filograna implexa* (An)	268	11.9
Spiophanes bombyx (An)	380	8.9	*Plakosyllis quadrioculata* (An)	112	5.0
Erichthonius sp. A (Ar)	170	4.0	*Rildardanus laminosa* (Ar)	104	4.6
Syllis spongicola (An)	128	3.0	*Protomedeia* sp. A (Ar)	71	3.2
Onuphis pallidula (An)	114	2.7	*Ampharete americana* (An)	54	2.4
Photis sp. (Ar)	90	2.1	*Syllis spongicola* (An)	53	2.4
Owenia fusiformis (An)	84	2.0	*Sphaerosyllis* sp. (An)	47	2.1
Photis longicaudata (Ar)	67	1.6	Syllidae L (An)	47	2.1
Mesochaetopterus sp. (An)	59	1.4	*Chone americana* (An)	40	1.8
Ampharete acutifrons (An)	57	1.4	*Syllis hyalina* (An)	40	1.8

Much of the variability in populations of infaunal organisms can be attributed to our sampling methods which included too few replicates to accurately determine whether changes in density were due only to seasonality. In addition, the complex physiography and diverse substrates of hard-bottom habitats create a habitat patchiness that could result in either selective settling by larvae or differential survival of different benthic invertebrate species. Other physical factors which have been reported to affect stability (i.e., persistence) of benthic populations are fluctuations in water temperature (Boesch et al. 1977) and disturbance of sediments by storms (McCall 1977). Boesch et al. (1977) attributed the temporal stability of macrofaunal species on the outer shelf of the Middle Atlantic Bight to decreasing thermal variation and reduced effects of storms in deeper water. Although upwelling of colder water does occur on the continental shelf in the South Atlantic Bight, most of the benthic infaunal species collected by suction sampler and grab have wide latitudinal ranges and are eurybathic, extending from the intertidal zone to the continental slope and beyond. Thus, most should be fairly tolerant of the environmental conditions found at hard-bottom sites on the shelf.

Values of Shannon diversity (H'), evenness (J'), richness (SR), dominance (DI), number of species (s), and number of individuals (n) showed no consistent patterns between depth zones and seasons (Table 7). During all seasons, H' was > 5 bits/individual at both inner-shelf stations, except IS01 in fall when H' was 4.58. This comparatively low H' value reflected an uneven distribution of individuals among species at IS01 and, consequently, an elevated dominance index (DI) value rather than low SR or s. Low evenness and high DI were attributed to large numbers of the colonial polychaete *Filograna implexa*.

More species were collected at mid-shelf stations than at any others sampled. Approximately 42 and 48% of all species collected at MS02 and MS06, respectively, were represented by one or two individuals and are consequently considered rare. Both s and SR were greatest at mid-shelf stations in winter; however, the community-structure values were not seasonally consistent between stations. For example, values of H' were high (> 6) at MS06 during all seasons except fall when the lowest H' value for any station sampled occurred. At MS02, high H' values were noted only in winter and summer. As noted for inner-shelf stations, low H' values were affected by low evenness which reflected strong dominance by the polychaete *F. implexa*.

Community-structure values at outer-shelf stations were also not consistent between stations or seasons. At station OS06, H' and J' showed little seasonal variation and indicated that species were fairly diverse and evenly distributed. The dominance index also indicated that collections were not numerically dominated by one or two species. However, s and SR at OS06 did change with season, being much lower in fall. At station OS01, seasonal changes in H' reflected concomitant changes in evenness and dominance. Thus, although more species and greater SR occurred at OS01 in spring, H' was lower than in any other season at this station due to numerical dominance by the polychaete *Pista palmata*. Most community-structure values at outer-shelf sites were comparable with those obtained on the inner shelf; however, the fewest species obtained on the shelf were recorded at OS01 in winter and OS06 in fall. In addition, fewest individuals were collected at outer-shelf stations.

In general, results from the present study are consistent with those reported in the initial study of hard-bottom habitats (Wenner et al. 1983). Sampling during both years has shown that rare species are a conspicuous component of the hard-bottom community and contribute to elevated species richness at all of the sites sampled. In addition, no consistent seasonal changes in diversity or s (Kruskal-Wallis test, $P > 0.05$) were noted for stations or depth zones. The low H' values which occurred at hard-bottom sites sampled in both years of study apparently reflect localized changes in the population density of a few dominant species, such as *F. implexa*, and are probably not indicative of any seasonality.

Although H' and its components did not show any definite patterns with regard to depth or latitude, the number of species was found to be significantly different between sites (Kruskal-Wallis test, $P < 0.01$). Specifically, more species were collected at mid-shelf sites, which may be related to more stable bottom temperatures in this area of the shelf (Miller and Richards 1980). In terms of community structure, these sites were characterized by 1) a large number of species, many of which were rare, and 2) high numerical dominance by *Filograna implexa*. In contrast, inner-shelf sites, which were subject to more extreme temperature variations, generally had fewer species and less dominance than sites on the middle shelf. Outer-shelf sites are also thermally variable because of intrusions of colder upwelled water, which predominantly occurs in fall (Atkinson et al. 1978). Fewest species were recorded at outer-shelf sites, and many of those which occurred were rare. In addition, dominance was relatively low. These results suggest that fluctuating temperatures at inner- and outer-shelf sites may exert some control on community structure at live-bottom sites. However, it is also possible that the lower richness at outer-shelf sites was due to collection of samples with a grab which does not sample hard substrates as effectively as the suction device. Although within-reef habitat heterogeneity is one important factor in determining richness of benthic fauna, thermal stability is probably also important.

Normal cluster analysis of pooled replicate collections taken with suction and grab samplers grouped stations according to depth zones with inner-shelf stations forming group 1, middle-shelf stations forming group 2, and two outer-shelf sites forming

Table 7.—Seasonal community structure values [number of individuals, number of species, diversity (H'), evenness (J'), richness (SR), and dominance index (DI)] for pooled replicate samples of invertebrates at each station.

Station	Season	No. individuals	No. species	H'	J'	SR	DI
IS01	winter	2,003	245	6.09	0.77	32.10	17.2
	spring	1,020	178	5.90	0.79	25.55	24.2
	summer	713	172	6.17	0.83	26.03	20.5
	fall	2,204	222	4.58	0.59	28.71	53.8
IS02	winter	2,158	176	5.58	0.75	22.80	22.6
	spring	1,468	197	6.41	0.84	26.88	11.2
	summer	808	172	6.42	0.87	25.54	12.9
	fall	547	148	6.25	0.87	23.30	15.2
MS02	winter	2,987	313	6.55	0.79	39.00	14.8
	spring	8,190	306	3.22	0.39	33.85	68.7
	summer	990	261	7.19	0.90	37.70	8.5
	fall	4,799	307	3.99	0.48	36.10	60.0
MS06	winter	1,896	319	6.75	0.81	42.13	17.5
	spring	954	230	6.61	0.84	33.38	17.4
	summer	1,188	251	6.71	0.84	35.31	14.6
	fall	22,328	297	0.85	0.10	29.46	93.5
OS01	winter	299	77	4.88	0.78	13.33	38.1
	spring	2,869	255	4.48	0.56	31.90	51.8
	summer	694	135	5.78	0.82	20.48	18.4
	fall	373	125	6.10	0.88	20.94	20.1
OS06	winter	—	—	—	—	—	—
	spring	1,215	198	6.03	0.79	27.74	21.3
	summer	670	189	6.69	0.88	28.89	7.5
	fall	366	99	5.27	0.80	16.60	32.2

groups 3 and 4 (Fig. 5). The two outer-shelf station groups constituted a larger agglomeration in the dendrogram which was very dissimilar in species composition to the inner- and middle-shelf groups.

None of the stations were grouped together by season; however, inner- and outer-shelf sites were grouped according to latitude with IS01 and OS01 clustering separately from IS02 and OS06, respectively. Major agglomerations in the dendrogram indicated bathymetric separation of sites, suggesting that depth is a major factor influencing species distribution. During the previous study, quantitative collections of smaller epibenthic and infaunal organisms were separated according to bathymetric zones during winter but not during summer, suggesting that the quantitative composition of the hard-bottom community was much more homogeneous across the shelf during summer (Wenner et al. 1983). However, based on the present study, we have found no evidence to suggest consistent seasonal change in community composition. Similarly, seasonal differences in species assemblages were not observed by Boesch et al. (1977) in a study of benthic communities in the Middle Atlantic Bight.

Most species groups delineated by cluster analysis were not limited in their distribution to one depth zone (Table 8, Fig. 6). Species in group A were consistently collected at inner- and middle-shelf sites, whereas those in group B were highly constant at all sites. Group C species were also ubiquitous, but displayed high constancy for middle-shelf stations. The only species in this group which was collected solely at middle-shelf sites was the polychaete *Ceratonereis* sp. A. Species in group D, which were widely distributed across the shelf, displayed highest constancy at middle-shelf stations and OS01. Groups E, F, and G were most consistently collected at inner- and middle-shelf stations but were not restricted in their distribution to these sites. The tanaidacean *Apseudes* sp. A, which occurred in group G, was the only species which was restricted to inner-shelf sites. Species in group H were found at all stations but were most frequently encountered at middle-shelf stations and OS06.

Examination of inverse cluster groups and nodal diagrams from the initial survey of hard-bottom habitats also revealed that few species were limited to specific bathymetric zones during both years of study (Wenner et al. 1983). No species was found to be highly constant at inner-shelf sites, whereas the polychaete *Eunice filamentose*, the amphipod *Megaluropus* sp., and the mollusk *Chione grus* were most consistently collected at middle-shelf sites during both years. In addition, the amphipod *Erichthonius* sp. A, the polychaete *Syllis* sp. D, and the echinoderm *Genocidaris maculata* were characteristically found at sites sampled on the outer shelf in both studies. These results indicate that many of the smaller epifaunal and infaunal species comprising benthic assemblages at hard-bottom sites are relatively ubiquitous across the shelf, although differences in overall community composition were observed between depth zones.

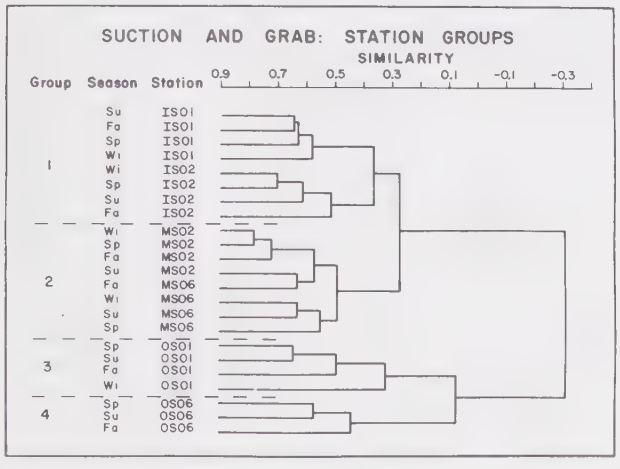


Figure 5.—Normal cluster dendrogram of station groups formed using the Bray-Curtis similarity coefficient, log transformation, and flexible sorting. Data from replicated suction and grab collections were pooled for each station prior to cluster analysis.

CONCLUSIONS

1) A total of 1,307 invertebrate taxa was collected with all sampling devices documenting the diverse nature of offshore hard-bottom habitats. Most sites were inhabited by rare species which were represented by only one or two individuals. Numerical dominance was limited to the polychaetes *Filograna implexa* and *Pista palmata* which were prevalent at middle- and outer-shelf sites, respectively.

2) Diversity of hard-bottom sites was generally high during all seasons. No consistent seasonal changes in diversity were noted for stations or depth zones throughout the study area. Low H' values were attributable to low evenness caused by high numbers of species such as *Filograna implexa* and *Pista palmata*. Although H' and its components did not show any well defined changes with depth, season, or latitude, more species were collected at middle-shelf sites. This may be related to less variable bottom temperatures in this area of the shelf, coupled with relatively high habitat complexity due to the frequent occurrence of large sponges and octocorals, which offer refuge to other benthic invertebrates. The number of identifiable invertebrate taxa collected at each station by dredge and trawl did not change significantly between seasons. Changes in the number of species between stations were attributable to varying degrees of topographic complexity and habitat heterogeneity.

3) Porifera, Bryozoa, and Cnidaria were the most diverse taxonomic groups collected by dredge and trawl during both years in which sampling was conducted. Sponges were most diverse at sites on the inner shelf, but their diversity diminished in dredge and trawl collections at middle- and outer-shelf sites. Taxa accounting for the greatest number of species in the latter areas were cnidarians and bryozoans.

4) Comparisons of total biomass between taxa showed that Porifera were dominant at most stations. No significant difference in biomass estimates was observed between seasons; however, bathymetric differences did occur, with biomass being greatest on the inner shelf for dredge and trawl collections. This may reflect the more uniform distribution of epifaunal invertebrates at inner-shelf sites; however, differences between sites may also be caused by sampling bias since efforts were made not to sample over high relief ledges on the middle shelf in order to minimize loss of gear.

5) The hard-bottom sites sampled throughout the entire study area were distinguished from each other primarily by trends in faunal composition related to depth. No evidence of seasonal grouping was noted. Epifaunal species censused by dredge and trawl appeared to be more faithful to particular depth zones than did benthic organisms sampled by suction sampler and grab. However, most species assemblages were not restricted to a particular depth zone. Inner- and middle-shelf sites were more

Table 8.—Species groups resulting from numerical classification of data from samples collected by suction and grab samplers during all seasons, 1981. (Am = Amphipoda; Br = Branchiopoda; Cu = Cumacea; D = Decapoda; E = Echinodermata; I = Isopoda; M = Mollusca; My = Mysidacea; P = Polychaeta; Po = Porifera; Py = Pycnogonida; Si = Sipunculida; T = Tanaidacea.)

Group A

Ophiothrix angulata (E)
Polycirrus carolinensis (P)
Lumbrineris inflata (P)
Exogone dispar (P)
Ophiactis savignyi (E)
Luconacia incerta (Am)
Podocerus sp. (Am)
Megalobrachium soriatum (D)
Paracerceis caudata (I)
Ampithoe sp. A (Am)
Elasmopus sp. A (Am)
Carpias bermudensis (I)
Lembos smithi (Am)
Websterinereis tridentata (P)
Podarke obscura (P)
Synalpheus townsendi (D)
Xanthidae A (D)
Melita appendiculata (Am)
Sipunculida A (Si)
Pherusa inflata (P)
Maera sp. A (Am)
Pista quadrilobata (P)
Arca imbricata (M)
Ampelisca schellenbergi (Am)
Chama congregata (M)
Gouldia cerina (M)
Pseudomedaeus agassizii (D)
Lysianopsis alba (Am)
Crepidula aculeata (M)
Syllis gracilis (P)

Group B

Aspidosiphon gosnoldi (Si)
Syllis hyalina (P)
Chone americana (P)
Eunice vittata (P)
Leucothoe spinicarpa (Am)
Syllis spongicola (P)
Pagurus carolinensis (D)
Laevicardium pictum (M)
Malacoceros glutaeus (P)
Megalomma bioculatum (P)
Chrysopetalidae A (P)
Amphiodia pulchella (E)
Eulalia sanguinea (P)
Crassinella lunulata (M)
Axiothella mucosa (P)
Spiophanes bombyx (P)
Owenia fusiformis (P)
Pista palmata (P)
Filograna implexa (P)
Harmothoe sp. A (P)
Caulleriella killariensis (P)
Ampharete americana (P)
Prionospio cristata (P)
Axiognathus squamatus (E)
Loimia medusa (P)
Spio pettiboneae (P)
Polydora caeca (P)
Prionospio cirrifera (P)
Microdeutopus myersi (Am)
Armandia maculata (P)
Erichthonius brasiliensis (Am)
Photis sp. (Am)
Gammaropsis sp. (Am)
Caprella equilibra (Am)
Leptochelia sp. (T)
Anoplodactylus petiolatus (Py)
Diplodonta punctata (M)
Mitrella lunata (M)
Suturoglypta iontha (M)
Pherusa ehlersi (P)
Caprella penantis (Am)

Group C

Marginella lavalleeana (M)
Eunice filamentosa (P)
Melphidippidae A (Am)
Diodora cayenensis (M)
Musculus lateralis (M)
Ceratonereis versipedata (P)
Ceratonereis sp. A (P)
Inachoides forceps (D)
Latreutes parvulus (D)
Trichobranchus glacialis (P)
Marphysa sp. A (P)
Phyllodoce fragilis (P)
Alpheus normanni (D)
Trypanosyllis zebra (P)
Sicyonia laevigata (D)
Branchiosyllis exilis (P)
Websterinereis sp. B (P)
Chevalia sp. (Am)
Chione grus (M)
Polycirrus eximius (P)
Hiatella arctica (M)
Tellina americana (M)
Diastylidae A (Cu)
Semele nuculoides (M)
Acanthohaustorius millsi (Am)
Megaluropus sp. (Am)
Syllis regulata carolinae (P)
Varicorbula operculata (M)
Syllis cornuta (P)
Schistomeringos rudolphi (P)
Brania clavata (P)

Group D

Leptochela papulata (D)
Bowmaniella portoricensis (My)
Ampelisca cristoides (Am)
Paraprionospio pinnata (P)
Mesochaetopterus sp. (P)
Onuphis nebulosa (P)
Batrachonotus fragosus (D)
Ampharete acutifrons (P)
Spionidae B (P)
Unciola sp. A (Am)
Onuphis pallidula (P)
Ampelisca vadorum (Am)
Aonides mayaguezensis (P)
Automate evermanni (D)
Xanthidae B (D)
Glycera capitata (P)
Nassarius albus (M)
Pomatoceros americanus (P)
Nassarina minor (M)
Lysidice ninetta (P)
Lumbrineris coccinea (P)
Tellina sybaritica (M)
Laonice cirrata (P)
Nephtys squamosa (P)
Pelecypoda B (M)

Group E

Erichsonella filiformis (I)
Marginella hartleyanum (M)
Lucifer faxoni (D)
Pseudeurythoe ambigua (P)
Mangelia rugirima (M)
Corbula contracta (M)
Aspidosiphon albus (Si)
Chione latilirata (M)
Phyllodoce longipes (P)
Glycera sp. B (P)
Marginella roscida (M)
Phyllochaetopterus socialis (P)
Subadyte pellucida (P)

Group F

Hydroides crucigera (P)
Hydroides sp. A (P)
Botula fusca (M)
Pitho lherminieri (D)
Pagurus hendersoni (D)
Ceratonereis mirabilis (P)
Ophiostigma isacanthum (E)
Majidae A (D)
Arabella mutans (P)
Anchialina typica (My)
Pelia mutica (D)
Lithophaga bisulcata (M)
Gastrochaena hians (M)

Group G

Phyllodoce castanea (P)
Pseudovermilia occidentalis (P)
Apseudes sp. A (T)
Arbacia punctulata (E)
Eunice antennata (P)
Pilumnus sayi (D)
Hyboscolex longiseta (P)
Amphipoda E (Am)
Paraphoxus spinosus (Am)
Amphipoda B (Am)
Cerithium atratum (M)
Vermiliopsis annulata (P)
Cumingia tellinoides (M)
Pseudovermilia sp. A (P)
Mithrax pleuracanthus (D)
Tanystylidae A (Py)
Paguristes tortugae (D)

Group H

Melitidae A (Am)
Syllidae L (P)
Syllis sp. D (P)
Genocidaris maculata (E)
Glycera tesselata (P)
Odontosyllis enopla (P)
Syllis alternata (P)
Syllis ferrugina (P)
Rildardanus laminosa (Am)
Erichthonius sp. A (Am)
Glycera papillosa (P)
Protodorvillea kefersteini (P)
Lembos unicornis (Am)
Goniadides carolinae (P)
Thyone pseudofusus (E)

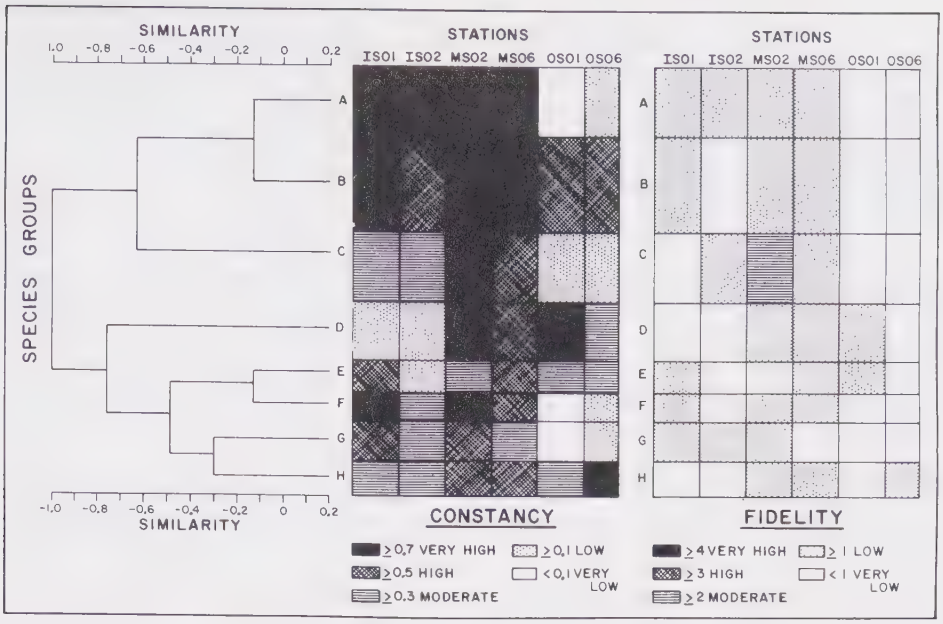


Figure 6.—Inverse classification hierarchies and nodal diagram showing constancy and fidelity of station-species group coincidence based on seasonal suction and grab collections.

similar in species composition to each other than they were to outer-shelf sites.

6) The densities of some numerically dominant species collected by suction and grab changed seasonally and bathymetrically. Such density variations may result from: 1) Differentially successful and sequential recruitment among larvae of various species; 2) predation, especially by marine fishes; and 3) habitat complexity. Seasonal influences on densities of individual species were not large enough to cause detectable seasonal changes in overall community structure and composition.

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Appendix 1. Phylogenetic list of invertebrate taxa collected by dredge during 1981 cruises to the stations off South Carolina and Georgia. w = winter, sp = spring, s = summer and f = fall. No dredge samples were collected during winter samples at station OS06.

	IS01	IS02	MS02	MS06	OS01	OS06
Porifera						
Demospongea - Ceractinomorpha						
Keratosa						
Aplysillidae						
Chelonaplysilla sp.	f	f	f	-	-	-
Darwinellidae						
Darwinella sp.	-	w,sp,f	-	f	f	-
Spongiidae						
Aplysina fistularis	-	w,sp,f	sp,s,f	f	f	-
Euspongia officenalis		f				
Ircinia campana	w	w,sp,s,f	f	-	-	f
Ircinia felix	w,sp	w,sp,s,f	sp,f	-	w,f	-
Ircinia ramosa	w,s	w,sp,s,f	sp,f	sp	f	-
Ircinia sp. B	-	-	-	-	-	s,f
Ircinia strobilina	-	sp,f	sp,f	sp	-	-
Oligoceras sp.	-	-	-	-	f	-
Spongia tubulifera	sp	sp	-	sp	-	-
Haplosclerida						
Adociidae						
Sigmadocia caerula	w	w	w,sp	-	w,s,f	-
Strongylophora sp. B	-	f	-	f	f	-
Desmacidonidae						
Xytopsues griseus	w,s	w,s,f	sp	-	w,s,f	-
Haliclonidae						
Amphimedon compressa	-	f	f	f	f	-
Callyspongia fallax	s	-	-	f	-	-
Haliclona areolata	-	w	-	-	-	-
Haliclona oculata	w,sp,s,f	w,sp,s,f	-	s,f	-	-
Haliclona sp. C	w,sp	w	sp	-	-	-
undetermined Haliclonidae	w	w	-	-	-	-
Nepheliospongiidae						
Xestospongia halichondrioides	-	-	-	sp	-	-
Poecilosclerida						
Poecilosclerida H	-	-	w	-	w	-
Amphilectidae						
Tenaciella obliqua	f	-	-	-	-	-
Microcionidae						
Microciona prolifera	s	sp,f	-	f	w,s,f	-
Microciona sp. D	-	-	-	-	s	-
Microciona spinosa	-	f	-	-	w	-
Pandaros acanthifolium	w,sp,s,f	w,sp	-	f	w,f	-

Appendix 1. (Continued)

	ISO1	ISO2	MSO2	MSO6	OSO1	OSO6
Thalyseurypon sp.	-	-	-	-	-	f
Thalyseurypon foliacea	-	sp	-	-	-	-
Thalysias juniperina	-	w,sp,s,f	w,sp,f	sp	-	f
Thalysias sp.	-	f	-	-	f	-
Mycalidae						
Neofibularia nolitangere	-	-	sp	sp	-	-
Myxillidae						
undetermined Myxillidae	w	-	-	-	-	-
Plocamiidae						
Holoplocamia sp.	-	-	sp	-	-	-
Holoplocamia sp. A	-	-	-	-	w	-
Tedaniidae						
Lissodendoryx isodictyalis	f	sp	f	sp,f	-	s
Lissodendoryx sigmata	s	s,f	sp,f	w	-	-
Tedania ignis	w	w,sp,f	-	-	-	-
Halichondriida						
Halichondriidae						
Ciocalapata gibbsi	w,sp,f	w,sp,s,f	f	f	w	f
Halichondria bowerbanki	w,sp,f	w,sp,s,f	f	-	-	f
Demospongea - Tetractinomorpha						
Axinellida						
Axinellidae						
Axinella bookhouti	w,sp,f	w,sp,f	-	f	w,s,f	-
Homaxinella rudis	w	w,sp,f	-	f	-	-
Homaxinella sp. A	sp,f	s,f	-	sp	f	-
Homaxinella waltonsmithi	w,sp,s,f	w,sp,f	-	-	-	-
Phakellia folium	-	w	-	-	-	-
Phakellia lobata	w	w,sp,f	-	-	f	-
Pseudaxinella lunaecharta	w	-	-	f	w,f	-
Pseudaxinella sp. A	-	w	-	-	-	-
Pseudaxinella sp. B	sp	sp	-	-	-	-
Pseudaxinella wilsoni	-	sp	-	-	-	f
Teichaxinella corrugata	s	sp,f	-	-	w,f	-
Teichaxinella morchella	-	-	-	f	-	-
Teichaxinella shoemakeri	-	-	-	-	f	f
undetermined Axinellidae	sp	w,sp,s,f	-	-	-	-
Demoxyidae						
Higginsia strigilata	w	w,sp,s,f	f	sp	w	-
Euryponidae						
Tricheurypon viride	sp,s	-	-	-	-	-
Hemiasterellidae						
undetermined Hemiasterellidae	-	-	sp	-	-	-

Appendix 1. (Continued)

	ISO1	ISO2	MSO2	MSO6	OSO1	OSO6
Raspaliidae						
Ectyoplasia ferox	sp	-	-	-	-	-
Hemectyon pearsei	sp	w,sp,f	f	-	-	-
Raspaciona sp. A	-	sp	-	-	-	-
Hadromerida						
Clionidae						
Cliona caribbaea	w	w,sp,f	sp,f	f	w,s,f	-
Spirastrellidae						
Anthosigmella varians	w	w,sp	-	-	-	f
Columnitis sp.	w	w,sp,f	-	-	-	-
Spheciospongia othella (?)	sp	-	-	-	-	-
Spheciospongia vesparium	sp,f	w,sp	-	sp,f	-	s
Spirastrella coccinea	w	w,sp,s,f	-	f	-	-
Timea mixta	w	f	-	-	-	-
Tethyidae						
Tethya crypta	w	w	-	-	sp	-
Choristida - Astrophorina						
Ancorinidae						
Myriastra fibrosa	s	w,f	-	sp	-	-
Myriastra incrustata	-	-	-	-	f	-
Myriastra kallitetilla	w	sp	-	sp	f	-
Myriastra sp. A	w	-	-	-	-	-
Geodiidae						
Erylus sp.	-	-	-	-	-	f
Geodia gibberosa	s	w,sp,s,f	f	w,f	w	-
Stelleta grubii	-	-	f	-	f	-
Stelleta sp. A	-	-	-	-	w,s,f	-
Choristida - Spirophorina						
Craniellidae						
Cinachyra alloclada	w	w,sp,f	-	f	w	-
Cinachyra kuekenthali	w	w,sp,f	f	f	f	-
Cinachyra rhizophyta	w	w,sp,f	-	-	-	-
Choristida - Chondrosiina						
Chondrillidae						
Chondrilla nucula	-	sp	-	-	-	-
Chondrosiidae						
Chondrosia collectrix	w	sp,f	-	-	-	-
Calcarea						
Leucettidae						
Leucetta sp. A	-	-	-	sp	-	-

Appendix 1. (Continued)

	ISO1	ISO2	MSO2	MSO6	OSO1	OSO6
Leucetta floridana	-	-	-	-	-	f
Leuconiidae						
Leuconia aspera	w,s	sp	w,sp	w,f	s	f
Calcarea - Calcinea						
Clathrinida						
Clathrinidae						
Clathria sp.	-	w	-	-	w,f	-
Clathrina coriacea	s,f	-	sp	-	-	f
Calcarea - Calcaronea						
Scyettida						
Scyettidae						
Scypha barbadensis	s,f	f	w,sp	f	-	f
Cnidaria						
Hydrozoa						
Anthomedusa/Athecata						
Bougainvilliidae						
Bimeria humilis	f	s,f	s,f	f	s	f
Bougainvillia sp.	-	w	-	-	sp,s	sp
Clavidae						
Turritopsis fascicularis	-	s	-	sp,s	-	-
Turritopsis nutricula	s,f	-	s	sp,f	sp	sp
Eudendriidae						
Eudendrium carneum	w,s,f	sp,s,f	w,sp	w,sp,s,f	w,f	-
Eudendrium sp.	s,f	w,sp,s,f	s,f	-	sp,s,f	s,f
Eudendrium tenellum	-	s	-	s,f	w,sp,s	sp,f
Hydractiniidae						
Clavactinia sp.	sp	-	-	-	sp	-
Hydractiniidae B	-	-	sp	-	-	-
Leptomedusae/Thecata						
Campanulariidae						
Campanularia hincksii	-	w	w,sp,s,f	w,sp,f	w,sp,f	sp,s,f
Clytia cylindrica	s,f	w,s	w,sp,f	w,f	w,sp,s,f	sp,s,f
Clytia fragilis	-	w,sp,s	w,sp,s,f	w,f	w,sp,s	sp
Obelia dichotoma	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s	sp,s,f
Haleciidae						
Halecium diminutivum	s	-	-	-	-	-
Halecium dysymmetrum	w,sp,s	w,sp,s	-	w,sp	sp,s	sp,f
Halecium sp.	w,sp,s,f	w,sp,s,f	sp,s	sp,s,f	w,sp,s,f	sp,f
Halecium tenellum	w,sp	w,f	w,sp,s	w,sp,s	w,sp,s,f	sp,f

Appendix 1. (Continued)

	IS01	IS02	MS02	MS06	OS01	OS06
Lafoeidae						
Filellum serratum	-	w	s	sp	w,sp,s,f	sp,f
Hebella scandens	-	w	w,s,f	-	w,sp,f	sp,s,f
Hebella venusta	-	w	w,sp,s,f	sp,s,f	w,sp,f	sp
Lafoea fruticulosa	-	-	-	-	-	sp,f
Scandia mutabilis	sp	w,f	w,sp,s,f	f	w,f	sp,f
Laodiceidae						
Modeeria rotunda	-	-	-	f	w	-
Plumulariidae						
Aglaophenia allmani	-	-	sp,f	sp	-	-
Aglaophenia elongata	sp	-	f	-	w,sp	sp,s,f
Aglaophenia latecarinata	sp,s,f	f	sp,s,f	w,sp,f	s	sp,s
Aglaophenia trifida	w,sp,s,f	w	w,sp,s,f	w,sp,f	w,sp,s,f	sp,s,f
Antenella secundaria	-	w	-	sp	s	sp,f
Gymnangium sinuosum	s	f	-	s	-	sp,s,f
Halopteris clarkei	f	w	-	-	w,sp,s,f	sp,s,f
Monostaechas quadridens	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,s,f	sp,s,f
Nemertesia simplex	-	-	-	f	sp	sp,s,f
Plumularia margaretta	-	-	-	f	-	-
Plumularia setacea	s	-	-	-	w,sp	s
Schizotricha tenella	-	-	-	sp	-	-
Sertulariidae						
Dynamena cornicina	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,s	s,f
Dynamena dalmasi	-	-	-	s	sp,s	sp,f
Dynamena quadridentata	w,sp	w,sp,s,f	w,sp,s,f	sp,s,f	w,s	sp,f
Salacia desmoides	f	w,s	w,sp	w,sp,s,f	w,sp,s,f	sp,s,f
Sertularella areyi	-	w	-	-	w,sp,s	sp,f
Sertularella conica	w,sp,s,f	-	w,sp,s,f	sp,s,f	w,s	sp
Sertularella pinnigera	f	-	f	f	-	-
Sertularella sp. A	w,s,f	-	w,f	sp,s,f	sp,s,f	sp,f
Sertularia distans	w,sp,f	-	sp,s	w,sp,s,f	f	-
Sertularia marginata	w,sp,s,f	w,s,f	w,sp,s,f	w,sp,s,f	s	sp,s
Sertularia plumulifera	w,sp,f	w,sp	sp,s	w,sp	w,sp,s	sp,f
Thyroscyphus marginatus	s,f	w,f	w,sp,s,f	w,sp,s,f	w,f	-
Syntheciidae						
Hincksella cylindrica	s	-	s,f	sp,f	-	sp,f
Synthecium tubitheca	-	-	w,sp,s,f	w,sp,s,f	f	sp,f
Anthozoa - Octorallia						
Telestacea						
Telestidae						
Telesto fruticulosa	w,s,f	w,sp,s,f	w,sp,s,f	sp,s	w,sp,s,f	sp,f
Telesto sanguinea	w,s	w,sp,s,f	w,sp,s	w,f	w,sp,s,f	sp,s,f

Appendix I. (Continued)

	ISO1	ISO2	MSO2	MSO6	OSO1	OSO6
Alcyonacea						
Nidaliidae						
Nidalia occidentalis	-	-	-	-	-	s
Gorgonacea						
Anthothelidae						
Diodogorgia sp.	-	-	-	-	w,f	s,f
Titanideum frauenfeldii	w,sp,s,f	w,sp,s,f	w,sp,f	sp,s,f	w,sp,s,f	sp,s,f
Ellisellidae						
Ellisella sp.	-	-	-	-	w,f	sp,s,f
Gorgoniidae						
Leptogorgia virgulata	w,sp,s,f	w,sp,s,f	f	w,sp,s,f	-	f
Lophogorgia cardinalis	-	-	f	-	-	sp,f
Lophogorgia hebes	w,sp,s,f	w,sp,s,f	w,sp	w,sp,s,f	sp	-
Paramuriceidae						
Thesea sp.	-	-	f	sp,f	w,sp,s,f	sp,s,f
Plexauridae						
Muricea pendula	-	f	-	-	w,sp	-
Pennatulacea						
Renillidae						
Renilla reniformis	-	-	-	-	w	-
Virgulariidae						
Stylatula sp.	-	-	-	-	w,s,f	sp,f
Anthozoa - Zoantharia						
Actiniaria						
undetermined Actiniaria	w,sp,f	w,sp,f	sp	w,sp	w,s	-
Scleractinia - Faviina						
Faviidae						
Solenastria hyades	w,f	-	-	-	-	-
Oculinidae						
Oculina arbuscula	-	w	-	-	-	-
Oculina sp.	w,sp	sp,f	f	-	sp,f	-
Rhizangiidae						
Astrangia astreiformis	-	-	-	s	-	-
Phyllangia americana	-	f	f	-	-	-
Scleractinia - Dendrophylliina						
Dendrophylliidae						
Balanophyllia floridana	-	-	-	-	w,s,f	f

Appendix 1. (Continued)

	ISO1	ISO2	MSO2	MSO6	OSO1	OSO6
Antipatharia						
undetermined Antipatharian	f	s	w,f	-	w,sp,f	-
Mollusca						
Gastropoda - Prosobranchia						
Archaeogastropoda						
Fissurellidae						
Diodora cayenensis	w	w,sp	-	w,sp	w,s,f	-
Trochidae						
Calliostoma euglyptum	-	sp	-	-	-	-
Calliostoma roseolum	-	-	w	-	-	-
Mesogastropoda						
Crepulidae						
Crepidula aculeata	w,sp,s	w,sp,f	w,sp	-	-	-
Crepidula plana	-	-	-	-	-	sp
Cymatiidae						
Cyphoma mcgintyi	-	-	-	-	sp	-
Distorsio constricta mcgintyi	-	-	-	sp	-	sp,f
Cypraeidae						
Cypraea spurca acicularis	-	-	-	-	-	f
Eratoidae						
Erato maugeriae	-	-	-	-	s	-
Mytridae						
Vexillum gemmatum	-	-	-	w	-	-
Ovulidae						
Simnia uniplicata	w	-	-	-	-	-
Turritellidae						
Vermicularia knorrii	f	w,sp,s,f	-	sp,s,f	f	-
Velutinidae						
Lamellaria perspicua	-	-	-	-	s	-
Vermetidae						
Spiroglyphus irregularis	-	-	sp	-	-	-
Neogastropoda						
Buccinidae						
Pisania tincta	sp	w,sp,s,f	-	-	-	-
Columbellidae						
Anachis avara	-	w	-	-	w	-
Anachis lafresnayi	s	-	-	-	sp,f	sp
Nassarina minor	-	f	-	-	-	-
Suturoglypta iontha	-	f	-	s	-	-
Conidae						
Conus floridanus	-	-	-	-	-	sp

Appendix 1. (Continued)

	IS01	IS02	MS02	MS06	OS01	OS06
Fasciolariidae						
Fasciolaria lilium hunteria	s	sp	-	-	-	f
Fasciolaria tulipa	-	w,sp	-	-	-	-
Pleuroploca gigantea	-	-	-	s	-	-
Marginellidae						
Marginella apicina	-	-	-	-	w	-
Muricidae						
Calotrophon ostrearum	-	-	-	-	w	-
Favartia cellulosa	-	-	-	sp	-	-
Murex florifer dilectus	w	w,sp	-	-	w,f	-
Murex pomum	-	w	-	-	-	-
Murex sp. B	-	-	-	-	w	-
Nassariidae						
Nassarius albus	-	-	-	-	sp	-
Turridae						
Kurtziella limonitella	s	-	-	-	-	-
Pelecypoda						
Arcoida						
Arcidae						
Anadara notabilis	-	-	-	sp,f	-	f
Arca imbricata	w,sp,s,f	w,sp,s,f	w,sp,f	w,sp,s,f	f	s
Arca zebra	w,s	-	f	-	w,f	-
Arcopsis adamsi	-	-	-	-	w,s,f	s
Barbatia candida	-	-	f	-	s,f	f
Mytiloida						
Mytilidae						
Lithophaga bisulcata	sp	w,sp	-	-	f	-
Modiolus americanus	w,sp,s,f	w,sp,f	w,sp,f	w,sp,s,f	-	-
Musculus lateralis	f	-	-	-	-	-
Pterioida						
Anomiidae						
Anomia squamula	-	-	sp	-	-	-
Pododesmus rudis	-	f	sp	-	-	-
Pectinidae						
Chlamys benedicti	-	-	-	s	w,f	s
Plicatulidae						
Plicatula gibbosa	-	f	-	-	f	-
Pteriidae						
Pteria colymbus	w,sp,s,f	w,sp,s,f	w,sp,s	w,sp,f	s,f	-
Spondylidae						
Spondylus americanus	-	w	-	-	-	-

Appendix 1. (Continued)

	IS01	IS02	MS02	MS06	OS01	OS06
Ostreina						
Ostreidae						
Lopha frons	-	-	-	sp	-	-
Ostrea permolis	s	-	-	sp	-	-
Veneroida						
Cardiidae						
Americardia media	-	-	f	-	-	f
Laevicardium pictum	w	sp,f	-	-	-	-
Chamidae						
Chama congregata	w,s,f	w,sp,f	sp,f	w,sp,s	w,s,f	s
Chama macerophylla	-	w,f	-	-	-	-
Chama sarda	-	f	-	-	-	-
Pseudochama radians	w,sp	w,sp	sp	-	-	-
Tellinidae						
Tellina americana	-	w	-	-	-	-
Veneridae						
Chione grus	s,f	-	-	-	w	-
Chione latilirata	w	-	-	-	-	-
Macrocallista maculata	-	w	-	-	-	-
Myoida						
Corbulidae						
Corbula chittyana	-	-	-	-	-	f
Gastrochaenidae						
Gastrochaena hians	-	-	-	-	w,f	-
Hiatellidae						
Hiatella arctica	-	sp,s,f	sp	sp,s,f	w,s,f	-
Pholadomyoida						
Lyonsiidae						
Lyonsia beana	w,s,f	w,sp	w,sp	sp,s	-	-
Octopoda						
Octopodidae						
Octopus joubini	-	-	sp	-	f	-
Octopus sp.	sp	f	-	-	f	-
Arthropoda - Mandibulata						
Crustacea - Cirripedia						
Thoracia - Lepadomorpha						
Scalpellidae						
Scalpellum diceratum	-	-	-	-	w	-

Appendix 1. (Continued)

	IS01	IS02	MS02	MS06	OS01	OS06
Thoracia - Balanomorpha						
Archaeobalanidae						
Conopea galeata	w	s	-	-	s	-
Conopea merrilli	w,f	w,sp,s,f	w,sp,s,f	w,sp,s	w,sp,f	-
Balanidae						
Balanus calidus	sp,f	-	sp	s	sp,s	sp
Balanus trigonus	w,sp,s,f	w,sp,s,f	w,sp,s	w,sp,s,f	w,sp,s,f	sp,f
Balanus venustus	w,sp,f	w,s,f	w,sp	sp,f	w,sp	sp
Crustacea - Malacostraca						
Stomatopoda						
Gonodactylidae						
Gonodactylus bredini	-	w,s	w,sp	w	f	s
Decapoda - Pleocyemata - Caridea						
Alpheidae						
Alpheus formosus	-	-	sp	-	-	-
Synalpheus fritzmuelleri	sp	-	-	-	-	-
Synalpheus longicarpus	sp	s,f	-	sp	-	-
Synalpheus minus	sp,s,f	sp	sp,s	-	-	-
Synalpheus townsendi	-	w,sp,s,f	w,sp,s	sp,s	w,s,f	f
Decapoda - Pleocyemata - Palinura						
Scyllaridae						
Scyllarus chacei	-	-	-	-	f	-
Scyllarus depressus	-	-	-	-	-	f
Decapoda - Pleocyemata - Anomura						
Diogenidae						
Dardanus fucosus	-	-	sp	s	w	-
Dardanus insignis	-	-	-	-	w,sp,f	sp,f
Paguristes sericeus	-	sp	-	-	sp	-
Paguristes tortugae	sp	w,sp	-	-	-	-
Petrochirus diogenes	-	-	s	-	sp	-
Galatheidae						
Galathea rostrata	-	-	-	-	w,sp,s	s,f
Paguridae						
Pagurus carolinensis	-	sp	s	-	-	-
Pylopagurus corallinus	-	-	-	-	w	f
Porcellanidae						
Megalobrachium soriatum	sp	w	sp	w,sp	-	-
Pachycheles rugimanus	-	-	-	w,s	w,s,f	-
Petrolisthes galathinus	-	w	-	-	-	-
Porcellana sigsbeiana	-	-	-	-	sp	-

Appendix 1. (Continued)

	ISO1	ISO2	MSO2	MSO6	OSO1	OSO6
Decapoda - Pleocyemata - Brachyura						
Calappidae						
Calappa angusta	-	-	-	-	-	sp,f
Osachila semilevis	-	-	-	-	w	-
Cancridae						
Cancer irroratus	w	-	-	-	-	-
Dromiidae						
Dromidia antillensis	w,sp	sp,s	f	-	-	-
Grapsidae						
Euchirograpsus americanus	-	-	-	-	w,s,f	s
Majidae						
Macrocoeloma camptocerum	w	w,sp	sp	-	-	-
Macrocoeloma trispinosum	-	f	-	-	-	-
Metaporaphis calcarata	-	-	-	-	s	-
Mithrax acuticornis	-	-	f	w	w,s	s,f
Mithrax forceps	-	w,s	f	-	-	-
Mithrax pleuracanthus	w,sp,s,f	w,sp,f	w,sp,f	w,sp	-	-
Pelia mutica	-	-	sp	-	-	-
Podochela gracilipes	-	-	-	-	s	f
Podochela riisei	-	w,sp	w,sp	-	-	-
Stenocionops furcata coelata	f	-	f	-	w,s,f	s
Stenorhynchus seticornis	-	w	-	w	s	-
Parthenopidae						
Parthenope fraterculus	-	-	-	-	w,s,f	s,f
Pinnotheridae						
Pinnotheres maculatus	sp	w	-	-	-	-
Pinnotheres ostreum	-	w	-	w	-	-
Portunidae						
Portunus ordwayi	-	-	-	-	w,sp,f	-
Raninidae						
Hypochonca sabulosa	-	w,sp	-	-	f	-
Symethis variolosa	-	-	-	-	-	f
Xanthidae						
Carpoporus papulosus	-	-	-	-	-	f
Glyptoxanthus erosus	-	-	-	s	-	-
Pilumnus dasypodus	s	-	w,sp,s	s	-	-
Pilumnus floridanus	-	-	-	w,sp	s,f	-
Pilumnus pannosus	sp	w,sp,f	-	-	-	-
Pilumnus sayi	w,sp,s,f	w,sp,s,f	sp,s,f	w,sp,s	sp	-
Pseudomedaeus agassizii	-	w,sp	sp,s,f	w,sp	sp,s	s,f
Xanthidae A	-	-	-	-	s	-

Appendix 1. (Continued)

	ISO1	ISO2	MSO2	MSO6	OSO1	OSO6
Bryozoa						
Stenolaemata						
Cyclostomata						
Crisiidae						
Crisia sp.	w,sp,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,s	s,f
Diaperoeciidae						
Diaperoecia floridana	-	w	w,sp,f	w,sp,s,f	w,sp,s	sp,f
Lichenoporidae						
Lichenopora radiata	-	sp	s	w,sp,s,f	-	s,f
Oncousoeciidae						
Proboscina floridana	-	-	-	sp,s,f	-	sp,f
Plagioeciidae						
Plagioecia dispar	-	-	-	-	-	sp,s,f
Gymnolaemata						
Ctenostomata						
undetermined Ctenostomata	w,sp	w	sp,f	sp,s,f	w,sp	sp,s,f
Alcyonidiidae						
Alcyonidium sp.	s,f	w	w,sp	-	-	sp
Buskiidae						
Buskia sp.	w	w	w,sp,s	-	w	f
Nollelidae						
Nolella stipata	w,sp	w	w,sp,s	-	w,s	-
Valkeriidae						
Aeverrillia setigera	-	sp	w,sp,s	w,sp,f	-	sp
Vesiculariidae						
Amathia alternata	-	w,sp,s,f	f	-	s	sp
Amathia convoluta	w	w	-	sp	w	sp,s
Amathia distans	-	w,s,f	w,sp,s,f	w,sp,s,f	w,s,f	sp,s,f
Victorellidae						
Sundanella sibogae	sp,s	f	s	-	-	-
Cheilostomata - Anasca						
Aeteidae						
Aetea anguina	w,sp	w,sp,f	w,sp,s	w,sp,s,f	sp	sp,s,f
Alderinidae						
Alderina smitti	w,sp	-	-	sp	w,s	sp,s,f
Antropora tincta	w,sp	w,sp,s,f	w,sp,s,f	sp,f	w,sp,s	sp,f
Copidozoum tenuirostre	-	-	-	sp,f	-	-
Crassimarginatella leucocypha	-	sp,f	-	-	-	-
Parellisina curvirostris	-	w	sp,f	w,sp,s,f	w.s	-
Parellisina latirostris	-	-	f	s,f	sp,f	sp,s,f

Appendix 1. (Continued)

	IS01	IS02	MS02	MS06	OS01	OS06
Bugulidae						
Bugula fulva	-	w	w,sp,s,f	w,sp,f	-	sp
Bugula grayi	-	-	f	f	-	-
Bugula johnstonae	-	-	-	-	-	sp,f
Bugula microoecia	-	w	sp	w,sp	-	-
Bugula rylandi	w,sp,s,f	w	w,sp,s,f	w,sp,f	-	s
Bugula sp.	-	-	-	f	-	-
Bugula turrita	-	-	sp	sp	-	-
Caulibugula dendrograpta	-	-	s,f	f	-	-
Caulibugula pearsei	sp	-	-	w,s	-	-
Cellariidae						
Cellaria nodosa	-	-	-	-	-	sp
Chaperiidae						
Chaperia sp.	s	-	w,sp,s,f	w,sp,s,f	w	-
Cupuladriidae						
Cupuladria canariensis	-	w	sp	w,sp,f	-	sp
Cupuladria doma	w	-	sp	w,sp,f	-	sp,f
Discoporella umbellata	-	-	-	w	f	sp
Farciminariidae						
Nellia tenella	-	-	f	s,f	-	sp,s,f
Hincksinidae						
Aplousina gigantea	w	w,s	sp,s	sp	w,sp,s,f	sp,s,f
Aplousina tuberosa	-	-	f	w,f	f	s
Membraniporidae						
Membranipora arborescens	-	-	-	-	f	sp,f
Membranipora tenuis	w,sp,f	sp	s	-	-	-
Microporidae						
Micropora coriacea	-	-	-	-	-	sp,s,f
Onychocellidae						
Floridina antiqua	-	w,sp,s,f	-	sp	w,sp,s,f	sp
Floridina parvicella	-	s	s	sp	sp	sp,f
Smittipora levinseni	-	w,sp	sp,s	w,sp,f	w,sp,s,f	sp,s,f
Scrupocellariidae						
Caberia boryi	-	-	f	w,sp,s,f	-	sp,s
Scrupocellaria bertholleti	-	w	-	-	-	-
Scrupocellaria regularis	sp,s	w,f	sp,f	sp	w	sp,s,f
Steganoporellidae						
Steganoporella magnilabris	-	-	-	s,f	-	-
Cheilostomata - Cribrimorpha						
Cribrilinidae						
Bellulopora bellula	-	-	-	-	-	sp,s,f
Cribrilaria floridana	-	sp	s	w,sp,s,f	-	f
Cribrilaria radiata	w,sp	w,sp,s,f	sp,s	w,sp,s,f	w,sp	sp,s,f
Membraniporella aragoi	-	w	-	w	w,sp,f	-
undetermined Cribrilinidae	-	sp	-	-	-	-

Appendix 1. (Continued)

	ISO1	ISO2	MSO2	MSO6	OSO1	OSO6
Cheilostomata - Ascophora						
Adeonidae						
Reptadeonella hastingsae	w,sp,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	sp
Celleporariidae						
Celleporaria albirostris	-	w,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	sp,s,f
Celleporaria magnifica	w,sp,s	w,sp,s,f	sp,s,f	w,sp,s,f	w,s	-
Celleporaria mordax	s,f	w,s,f	s	-	-	-
Trematoecia turrita	-	-	-	-	s	sp,f
Celleporinidae						
Celleporina hassalli	f	-	w,sp,s	-	-	-
Turbicellepora dichotoma	w,sp,s	w,sp,s	w,sp,s,f	w,sp,f	w,sp,s	sp
Cheiloporinidae						
Hippaliosina rostrigera	w,sp,s	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,f	-
Crepidacanthidae						
Crepidacantha sp.	-	-	-	-	-	sp,f
Crepidacantha poissoni teres	-	-	sp	w,sp	-	sp,s
Exochellidae						
Exochella longirostris	-	sp	s	sp	-	sp,s,f
Triporula stellata	-	-	-	-	-	sp,f
Hippoporinidae						
Hippopleurifera mucronata	-	-	s	-	-	-
Hippoporidra calcarata	-	-	-	-	w	sp
Hippoporidra janthina	-	-	-	-	-	sp
Hippoporina contracta	w,sp	w,sp,s,f	w,sp,s,f	-	w,f	sp,s,f
Hippoporina verrilli	-	f	s	-	sp	-
Hippothoidae						
Trypostega venusta	w,sp,s,f	w,sp,s,f	sp,s,f	w,sp,f	w,sp,s,f	sp,s,f
Microporellidae						
Microporella ciliata	w,sp,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	sp,s,f
Microporella marsupiata	-	-	-	sp,f	-	sp,s
Microporella umbracula	w,sp,s	w,sp,s,f	sp,s,f	w,sp,s,f	w	sp,s,f
Petraliidae						
Petraliella bisinuata	-	-	w,sp,s,f	w,sp,s,f	f	sp,f
Petraliella marginata	-	-	-	-	f	f
Phylactellidae						
Phylactella aviculifera	-	sp	s	f	-	f
Schizoporellidae						
Arthropoma cecili	-	-	-	w,sp	-	-
Cleidochasma porcellanum	w	w,sp,s	s	w,sp,s,f	sp,s,f	sp,s,f
Cycloperiella rubra	-	w	-	-	w,sp,s,f	sp,s,f
Escharina porosa	-	-	-	sp	s	sp,s
Schizoporella cornuta	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,f	w,sp,s	sp,s,f
Schizoporella errata	-	-	w,sp,f	w,f	-	-
Schizoporella floridana	sp	-	w,sp,s,f	w,sp,s,f	-	sp
Stylopoma informata	-	w,f	s,f	w,sp,f	w,sp,s,f	sp,s,f

Appendix 1. (Continued)

	IS01	IS02	MS02	MS06	OS01	OS06
Sertellidae						
Rhyncozoon rostratum	-	-	sp	-	-	-
Rhyncozoon tuberculatum	-	sp	-	sp	-	-
Smittinidae						
Parasmittina nitida	-	-	s	-	w	s
Parasmittina spathulata	w	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	sp,s,f
Smittina smittiella	-	w	sp	w,f	s	-
Stomachetosellidae						
Cigclisula serrulata	-	-	-	-	-	sp,f
Echinodermata						
Crinoidea						
Comasteridae						
Comactinia meridionalis	-	-	sp,s,f	-	-	-
Stelleroidea - Asteroidea						
Platyasterida						
Luidiidae						
Luidia alternata	w	w,sp,f	-	-	-	-
Luidia bernasconiae	-	-	-	-	f	-
Luidia clathrata	-	-	w	sp	-	-
Paxillosida						
Astropectinidae						
Astropecten articulatus	-	-	s	-	w,sp	-
Astropecten comptus	-	-	-	-	w,s	-
Astropecten duplicatus	s	-	-	f	-	-
Astropecten nitidus	-	-	w	-	-	-
Astropecten sp.	-	sp,f	sp	f	sp,s	-
Valvatida						
Ophidiasteridae						
Narcissia trigonaria	-	-	-	-	-	s,f
Spinulosida						
Echinasteridae						
Echinaster brasiliensis	-	-	-	-	sp	-
Echinaster modestus	-	s	-	-	-	-
Echinaster serpentarius	-	w	-	-	-	-
Echinaster sp.	w,s,f	w,sp,f	sp,f	-	sp	-

Appendix 1. (Continued)

	IS01	IS02	MS02	MS06	OS01	OS06
Forcipulata						
Asteriidae						
Asterias forbesii	w,sp,s,f	sp	-	-	-	-
Phyronophiurida - Euryalina						
Gorgonocephalidae						
Astrophyton muricatum	-	-	f	w	-	-
Astroporpa annulata	-	-	-	-	w,sp,s,f	sp,s,f
Ophiurida						
Goniasteridae						
Tosia parva	-	-	-	-	-	f
Gorgonocephalidae						
Astrocyclus caecilia	-	-	-	-	sp	-
Ophiactidae						
Ophiactis savignyi	-	-	-	-	-	s,f
Ophiochitonidae						
Ophionereis reticulata	-	-	-	f	-	-
Ophiodermatidae						
Ophioderma brevispinum	-	-	f	-	-	f
Ophiothricidae						
Ophiothrix angulata	w,sp,s,f	sp,s,f	sp,s,f	s,f	w,sp,s,f	s,f
Ophiothrix suensonii	-	-	-	-	f	f
Echinoidea						
Cidaroida						
Cidaridae						
Eucidaris tribuloides	-	-	-	sp	w,sp,f	s
Arbacoida						
Arbaciidae						
Arbacia punctulata	w,sp,s	w,sp,s,f	f	-	w,f	s
Temnopleuroida						
Toxopneustidae						
Lytechinus variegatus	w,sp,s,f	w,sp,f	-	-	-	-
Clypeasteroida						
Clypeasteridae						
Clypeaster prostratus	-	sp	-	-	-	-
Clypeaster subdepressus	-	s	w,s	sp	-	f
Mellitidae						
Encope michelini	sp,s	w,sp,f	-	-	-	-
Leodia sexiesperforata	s	sp	f	sp,f	-	-
Cassiduloida						
Echinolampadidae						
Echinolampas depressa	-	-	-	-	-	s

Appendix 1. (Continued)

	1801	1802	[illegible]	[illegible]	[illegible]	0806
[illegible]						
[illegible]						
[illegible]						
Dendrochirotida						
Cucumariidae						
[illegible]	w,sp,s,l	w,sp,l	sp	--		s
Aspidochirotida						
Synaptidae						
Isostichopus badionotus				l		
Chordata						
Ascidiacea						
Ascidiacea A		w,l				
Ascidiacea B			w			
Enterocoela						
Ascidiidae						
[illegible]			--,s,l			
Clavelinidae						
Clavellina picoides	l	--	sp,l			
Clavellina platei	sp	w	w			
Clavellina sp.	w,sp,s,l	--,s,l	sp,l	--,--	l	l
Pyuridae						
Pyura haustor	w,sp,s,l	w,sp,s,l	sp		l	s
Eudistoma caroliense	sp,l		sp,s	l	w,sp,s,l	--
Eudistoma hepaticum	l	--,s,l				--
Eudistoma sp.	w,sp,s,l		sp,s,l	sp	s,l	l
Didemnidae						
Didemnum candidum	w,sp,s,l	w,sp,l	w,sp,l	sp,s	s,l	s,l
Didemnum sp.	--	--	l		l	--
Didemnum speciosum	s,l	sp	--		l	--
Diplosoma macdonaldi	w,sp,s,l	--	s	l	s,l	--
Polysyncraton lingua	sp	s	--		l	s
Trididemnum sp.	w,s	sp,l	l		s,l	s,l
Polyclinidae						
Aplidium constellatum	l	w	w			--
Aplidium pellucidum	w,sp	--	--		w	s
Aplidium sp. A	sp	--	--		--	--
Aplidium sp. B	sp	w	--			
Aplidium stellatum	w	--	--			

Appendix 1. (Continued)

	IS01	IS02	MS02	MS06	OS01	OS06
Pleurogona						
Molgulidae						
Molgula occidentalis	w,sp,s,f	w,sp,s,f	w,sp,f	w,sp,s,f	-	-
Styelidae						
Botrylloides nigrum	s	-	sp	-	f	-
Botryllus planus	sp	sp	-	-	f	-
Polyandrocarpa floridana	w	-	s	sp,s	-	-
Polyandrocarpa gravei	-	w,sp	f	-	-	s
Polyandrocarpa tincta	-	-	sp	-	-	-
Styela partita	w,sp,f	sp,s,f	sp	-	-	-
Styela plicata	w,sp,s,f	w,sp,s,f	w,sp,s	w,sp,f	-	-
Symplegma viride	f	f	-	f	w,sp	-

Appendix 2. Phylogenetic list of invertebrate taxa collected by trawl during 1981 cruises to the stations off South Carolina and Georgia. w = winter, sp = spring, s = summer and f = fall. No trawling was done at station OS06 during any season.

	IS01	IS02	MS02	MS06	OS01
Porifera					
Demospongea - Ceractinomorpha					
Keratosa					
Keratosa D	-	-	-	-	f
Aplysillidae					
Chelonaplysilla sp.	-	sp,s	-	s	sp,f
Darwinellidae					
Darwinella sp.	s,f	w,f	w,sp,f	s	-
Dysideidae					
Dysidea variabilis (?)	w	-	-	-	-
Polyfibrospongia echina	w	-	-	-	-
Spongiidae					
Aplysina fistularis	w	w,sp,s,f	w,sp,s,f	w,sp,s	sp
Aplysina lacunosa	-	-	-	s	-
Euspongia officenalis	-	w	-	-	-
Hyatella intestinallis	-	f	-	-	-
Ircinia campana	f	w,sp,s,f	w,sp,s,f	w,sp,f	sp,s,f
Ircinia felix	w	w,sp,s,f	w,sp	sp,s	w,s
Ircinia ramosa	-	w,sp,s,f	w,sp,s,f	w,sp,f	w,s
Ircinia strobilina	-	w,s,f	w,sp,s,f	w,sp,f	sp,f
Spongia tubulifera	s	-	-	sp	-
Haplosclerida					
Adociidae					
Sigmadocia caerula	w	-	-	s	w,sp,s,f
Strongylophora sp. B	-	f	f	w,sp,s,f	-
Desmacidonidae					
Xytopsues griseus	w,sp,s	sp	-	s	w,sp,s
Xytopsues sp.	-	-	-	-	s
Haliclonidae					
Amphimedon compressa	-	s	-	sp,s,f	s
Callyspongia fallax	s	w,sp	sp	w,sp,f	-
Callyspongia vaginalis	-	-	-	sp	-
Haliclona areolata	-	s	-	w,f	-
Haliclona oculata	w,sp,s,f	w,sp,s,f	w,sp	w,sp,s,f	-
Haliclona palmata	-	w	-	-	-
Haliclona sp. C	sp	-	w	w	w,sp,s
Niphantes digitalis	-	w	-	-	-
Niphantes erecta	-	-	-	s	-
Nepheliospongiidae					
Xestospongia halichondrioides	-	-	-	s,f	s,f
Poecilosclerida					
Poecilosclerida H	-	w	-	-	w,sp
Amphilectidae					
Tenaciella obliqua	w	-	-	f	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Microcionidae					
Microciona prolifera	s	-	w,f	s,f	s,f
Microciona sp.	-	-	-	s	-
Microciona spinosa	s	-	w	s	w,sp
Pandaros acanthifolium	w,sp,s	sp	w	sp,s,f	s
Thalyseurypon foliacea	-	s,f	-	-	-
Thalysias juniperina	s	w,sp,s,f	w,sp,s	w,sp,s,f	sp,s
Thalysias sp.	-	-	-	-	f
Mycalidae					
Mycale sp.	-	-	-	-	s
Mycale sp. A	-	-	-	-	sp
Neofibularia nolitangere	-	-	sp	w,sp,s,f	sp
Zygomycale parishii	-	-	-	f	-
Plocamiidae					
Holoplocamia sp.	-	-	-	sp	sp
Tedaniidae					
Acarnus innominatus	-	-	-	s	-
Iotrochota birotulata	-	-	sp	sp	w,f
Lissodendoryx isodictyalis	w	sp,s,f	w,sp,s,f	w,sp,s,f	-
Lissodendoryx sigmata	s,f	sp,f	sp,s,f	w,sp,s,f	s
Lissodendoryx sp. B	-	w	-	-	-
Tedania ignis	-	w,sp,s	-	-	-
Halichondriida					
Halichondriidae					
Ciocalapata gibbsi	w,s,f	w,sp,s,f	-	s,f	sp,s,f
Halichondria bowerbanki	sp	w,sp,s	-	s	sp,s
Halichondria sp.	-	-	w	-	-
Demospongea - Tetractinomorpha					
Axinellida					
Axinellidae					
Axinella bookhouti	sp,f	w,sp,s	-	s,f	sp,s,f
Homaxinella rudis	-	w,s	w	sp,f	-
Homaxinella sp. A	w	w,sp,s,f	w,s,f	sp,s,f	f
Homaxinella waltonsmithi	w,sp,s,f	w,sp,s,f	s	sp,s,f	w
Phakellia lobata	w	w,s,f	w	-	-
Pseudaxinella lunaecharta	f	s,f	-	-	s
Pseudaxinella sp. A	w	w	-	-	-
Pseudaxinella sp. B	s	sp	-	-	-
Pseudaxinella wilsoni	s	-	-	-	f
Teichaxinella corrugata	s	sp,f	-	s	w,sp,s,f
Teichaxinella morchella	-	-	-	-	s
undetermined Axinellidae	-	s,f	-	-	-
Demoxyidae					
Higginsia strigilata	s,f	w,sp,s,f	-	sp,s,f	w,f

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Raspaliidae					
Ectyoplasia ferox	-	s	-	-	-
Ectyoplasia sp. A	w	w	-	-	-
Hemectyon pearsei	w,s	w,sp,s,f	-	-	sp
Raspaciona sp. A	w	s	-	-	-
Raspaciona sp. B	-	f	-	-	-
Hadromerida					
Clionidae					
Cliona caribbaea	w,sp,s	w,sp,s,f	w,sp,s,f	-	w,sp,s
Cliona celata	-	-	-	-	s
Cliona lampa	-	-	-	sp	-
Cliona sp.	-	-	-	sp	-
Coppatidae					
Spirasigma sp. (?)	-	-	-	sp	-
Placospongiidae					
Placospongia carinata	-	-	-	-	sp
Podospongiidae					
Podospongia sp.	-	-	-	s	-
Spirastrellidae					
Anthosigmella varians	w,sp,f	sp,f	-	w,s,f	sp
Spheciospongia othella (?)	f	-	-	-	-
Spheciospongia vesparium	w,sp,s,f	w,sp,s,f	w,sp,s,f	s,f	-
Spirastrella coccinea	w,s	w,sp,s,f	-	sp	-
Timea mixta	w	w,sp	-	w,sp	-
Suberitidae					
Polymastia sp.	-	f	-	-	-
undetermined Suberitidae	-	w	-	-	-
Tethyidae					
Aaptos aaptos	-	f	-	-	f
Tethya actinia	-	-	s	-	-
Tethya crypta	-	-	sp	-	-
Choristida - Astrophorina					
Ancorinidae					
Myriastra fibrosa	s	s,f	w	w,s,f	w,f
Myriastra incrustata	-	f	sp	-	-
Myriastra kallitetilla	s	-	-	f	w,sp,s
Myriastra sp. A	-	-	-	-	sp
Geodiidae					
Geodia gibberosa	-	w,sp,s,f	sp	w,sp,s,f	w,sp
Stelleta grubii	-	-	s	-	s
Stelleta sp. A	-	-	-	-	w,s,f

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Choristida - Spirophorina					
Craniellidae					
Cinachyra alloclada	w,sp,s	w,sp,s,f	w	s,f	s
Cinachyra kukenthali	w,s,f	w,s,f	w,sp,s	w,sp,s,f	-
Cinachyra rhizophyta	w,s	s	-	-	-
Choristida - Chondrosiina					
Chondrillidae					
Chondrilla nucula	-	w	w,sp,f	-	-
Chondrosiidae					
Chondrosia collectrix	w	-	w,sp	sp	-
Lithistida					
Scleritodermidae					
Scleritoderma paccardi (?)	-	-	-	-	sp
Calcarea					
Leucettidae					
Leucetta sp. A	-	-	sp	sp	-
Leucetta floridana	-	-	-	sp	-
Leuconiidae					
Leuconia aspera	w,sp,s	-	w,sp	sp,f	sp
Leuconia crustacea	w	-	-	-	-
Calcarea - Calcinea					
Clathrinida					
Clathrinidae					
Clathria sp. A	-	s	-	-	-
Clathrina coriacea	w,sp,s,f	sp,s,f	w,sp,s	-	w,sp
Leucosolenia canariensis	-	-	-	-	w
Leucosolenia cancellata	s	-	-	-	-
Calcarea - Calcaronea					
Scyettida					
Scyettidae					
Scypha barbadensis	w,sp,s,f	sp,s,f	sp	w,sp	sp
Scypha sp. A	sp	-	-	-	-
Cnidaria					
Scyphozoa					
Semaeostomeae					
Cyaneidae					
Cyanea capillata	-	w	w	-	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Ulmaridae					
Aurelia aurita	f	-	-	-	-
Rhizostomeae					
Stomolophidae					
Stomolophus meleagris	-	w,s,f	-	-	-
Cubozoa					
Carybdeidae					
Tamoya haplonema	-	f	-	-	s,f
Hydrozoa					
Anthomedusa/Athecata					
Bougainvilliidae					
Bimeria humilis	s,f	s,f	s,f	w,sp,s,f	sp,s,f
Bougainvillia sp.	f	w,s,f	f	w,sp,s	w,sp,s,f
Clavidae					
Turritopsis fascicularis	-	s	-	w,sp	w
Turritopsis nutricula	f	sp	s,f	w,s,f	w,sp,f
Eudendriidae					
Eudendrium carneum	sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,s,f
Eudendrium sp.	sp,s,f	w,sp,s,f	w,s,f	w,sp,s,f	sp,s,f
Eudendrium tenellum	f	s,f	s	w,sp,f	w,sp,s,f
Hydractiniidae					
Clavactinia sp.	sp	-	-	-	-
Hydractiniidae A	-	-	-	-	w
Tubulariidae					
Ectopleura sp.	-	-	-	-	w,sp
Leptomedusae/Thecata					
Campanulariidae					
Campanularia hincksii	sp	-	w,sp,s,f	w,sp,s,f	w,sp,s,f
Clytia cylindrica	w,sp,f	s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Clytia edwardsi	-	s	-	sp	s
Clytia fragilis	w,s	w,s,f	w,sp,s,f	w,sp,f	w,sp,s,f
Clytia paulensis	-	-	-	-	w,sp
Obelia dichotoma	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Campulinidae					
Cuspidella humilis	-	-	w,sp	-	-
Haleciidae					
Halecium diminutivum	f	-	-	-	-
Halecium dysymmetrum	w,s	w,sp,s,f	sp,s,f	w,sp,s	sp,s
Halecium sp.	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Halecium tenellum	f	w	w,sp,s,f	w,sp,s,f	w,sp,s,f

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Lafoeidae					
Filellum serratum	–	–	w,sp,s	w,sp,s	w,sp,s,f
Hebella scandens	sp,s,f	s	w,sp,s,f	w,s,f	w,sp,f
Hebella venusta	f	–	w,sp,s,f	w,sp,s,f	w,sp,s,f
Scandia mutabilis	w,sp,s,f	s,f	w,sp,s,f	w,sp,s,f	w,s,f
Laodiceidae					
Modeeria rotunda	–	–	–	–	s
Plumulariidae					
Aglaophenia allmani	s	s	w,sp,s	w,sp,s,f	w,sp,s,f
Aglaophenia elongata	sp,f	s	s	sp,s	w,sp,s,f
Aglaophenia latecarinata	s,f	sp,s,f	sp,s,f	w,sp,s,f	w,s,f
Aglaophenia trifida	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Antenella secundaria	–	–	–	sp	w,sp,f
Cladocarpus flexilis	–	–	–	f	w,sp,s
Gymnangium sinuosum	s,f	s,f	f	–	–
Halopteris clarkei	–	s	–	–	sp,s,f
Halopteris diaphana	–	–	–	sp	–
Monostaechas quadridens	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Nemertesia simplex	–	–	–	f	w,s,f
Plumularia margaretta	–	f	–	w	–
Plumularia setacea	s,f	–	s	w,sp,s,f	w,s,f
Sertulariidae					
Diphasia tropica	w	–	–	w	–
Dynamena cornicina	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,s,f
Dynamena dalmasi	–	w	w,s	w,sp,s,f	w,sp,s,f
Dynamena quadridentata	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,s,f
Salacia desmoides	sp,s	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Sertularella areyi	–	–	sp	–	w,sp,s,f
Sertularella conica	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp
Sertularella pinnigera	–	–	s,f	f	–
Sertularella sp. A	sp,s	f	sp,s	w,sp,s,f	w,sp,s,f
Sertularia distans	w,sp,s,f	w,sp,s,f	w,sp	w,sp,s	s
Sertularia marginata	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Sertularia plumulifera	w,sp,s,f	w,sp,s	w,sp,s,f	w,sp,s	w,sp,s,f
Thyroscyphus marginatus	s,f	s	w,sp,s,f	w,sp,s,f	w,s,f
Thyroscyphus ramosus	–	–	–	f	–
Syntheciidae					
Hincksella cylindrica	s,f	–	s,f	w,sp,s,f	–
Synthecium tubitheca	s	–	w,sp,s,f	w,sp,s,f	w,sp,s
Anthozoa - Octocorallia					
Telestacea					
Telestidae					
Telesto fruticulosa	w,sp,s,f	w,sp,s,f	w,sp,s,f	sp,s,f	w,sp,s,f
Telesto riisei	–	–	–	–	w,sp,s
Telesto sanguinea	w,sp,s,f	w,sp,s,f	sp,s,f	sp,s	w,sp,s,f

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Gorgonacea					
Anthothelidae					
Diodogorgia sp.	-	-	-	f	w,s,f
Titanidum rrauenfeldii	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Ellisellidae					
Ellisella sp.	-	-	-		w,sp,s,f
Gorgoniidae					
Leptogorgia setacea	-	-	-	-	w,sp,s,f
Leptogorgia sp. A	-	-	-	sp	-
Leptogorgia virgulata	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	f
Lophogorgia hebes	w,sp,s,f	w,sp,s,f	w,sp,s,f	sp,s,f	s,f
Paramuriceidae					
Thesea sp.	-	-	s	sp,s,f	w,sp,s,f
Plexauridae					
Muricea pendula	sp,f	-	w,sp,s,f	w,sp,f	w
Pennatulacea					
Virgulariidae					
Stylatula sp.	-	-	-	f	w,sp,s,f
Anthozoa - Zoantharia					
Actiniaria					
undetermined Actiniaria	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	sp,s
Scleractinia - Faviina					
Faviidae					
Solenastria hyades	w	-	-	-	-
Oculinidae					
Oculina arbuscula	-	sp	-	-	-
Oculina sp.	sp,s	f	w	-	-
Rhizangiidae					
Phyllangia americana	-	-	w,sp	sp,s	-
Scleractinia - Dendrophylliina					
Dendrophylliidae					
Balanophyllia floridana	-	-	-	-	s,f
Antipatharia					
undetermined Antipatharian	-	f	f	-	sp,s,f
Arthropoda - Chelicerata					
Merostomata - Xiphosura					

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Limulidae					
Limulus polyphemus	-	w	-	-	-
Arthropoda - Mandibulata					
Crustacea - Cirripedia					
Thoracia - Lepadomorpha					
Lepadidae					
Lepas pectinata	-	-	-	-	sp
Scalpellidae					
Scalpellum diceratum	-	-	-	-	sp,s,f
Thoracia - Balanomorpha					
Archaeobalanidae					
Conopea galeata	w,sp,s,f	w,sp,s,f	w,sp	-	f
Conopea merrilli	w,sp,s,f	w,sp,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Balanidae					
Balanus calidus	sp	sp	s	s	sp,s,f
Balanus trigonus	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Balanus venustus	w,sp,s,f	w,sp,f	w,sp,s,f	w,s	w,sp,f
Crustacea - Malacostraca					
Stomatopoda					
Gonodactylidae					
Gonodactylus bredini	-	-	w,f	w,s,f	-
Decapoda - Dendrobranchiata					
Penaeidae					
Mesopenaeus tropicalis	-	-	-	-	w,sp,s,f
Metapenaeopsis goodei	s	-	w,s,f	w,s,f	w,sp,s,f
Penaeus duorarum duorarum	-	f	s,f	-	s
Trachypenaeus constrictus	w,sp,f	w,sp,s,f	w,sp,s,f	w	w
Sicyonidae					
Sicyonia brevirostris	w	w,f	w,sp	-	w,sp,s,f
Solenoceridae					
Solenocera atlantidis	-	-	s	s,f	w,sp,s,f
Decapoda - Pleocyemata - Caridea					
Alpheidae					
Alpheidae A	-	-	sp	-	-
Alpheus formosus	-	w,s	w,sp	w,sp,f	sp
Alpheus normanni	-	-	-	s	s

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Alpheus sp. A	-	-	-	-	s
Automate evermanni	-	-	-	s	-
Synalpheus apioceros	-	-	f	-	-
Synalpheus fritzmuelleri	f	sp,s,f	-	-	-
Synalpheus longicarpus	w,sp,f	w,sp,s,f	sp,s	sp,f	-
Synalpheus minus	sp,f	w,sp,s,f	sp	f	sp,s
Synalpheus sp. A	-	-	s	-	-
Synalpheus townsendi	w,sp,s,f	w,sp,s,f	w,sp,s	w,sp,f	w,sp,f
Hippolytidae					
Lysmata wurdemanni	-	-	-	f	-
Tozeuma serratum	-	-	sp	-	sp,s
Pandalidae					
Parapandalus sp.	-	-	-	-	f
Plesionika tenuipes	-	-	-	-	sp
Palaemonidae					
Anchistioides antiguensis	-	-	-	f	-
Periclimenes perryae (?)	-	-	-	sp	-
Pontonia margarita	-	-	s	-	-
Processidae					
Processa tenuipes	-	-	-	-	sp,s
Decapoda - Pleocyemata - Palinura					
Scyllaridae					
Scyllarides nodifer	w	-	w,sp,s,f	w,sp,s	sp,s,f
Scyllarus chacei	-	-	-	-	s
Scyllarus depressus	-	-	-	-	s,f
Decapoda - Pleocyemata - Anomura					
Albuneidae					
Albunea gibbesii	-	-	-	f	-
Axiidae					
Axiopsis hirsutimana	-	-	-	-	w,s
Diogenidae					
Dardanus fucosus	-	-	-	s,f	-
Dardanus insignis	-	-	-	-	sp,s
Paguristes sericeus	-	-	-	-	s
Paguristes tortugae	f	w,sp,s	-	-	-
Galatheidae					
Galathea rostrata	-	-	-	f	sp,s,f
Paguridae					
Pagurus carolinensis	-	-	w,sp	-	w
Pagurus defensus	-	-	-	-	w
Pylopagurus corallinus	-	-	-	-	sp,s
Pylopagurus holthuisi	-	-	-	f	-
Porcellanidae					
Megalobrachium soriatum	-	sp,s	sp,s	sp	sp
Pachycheles rugimanus	-	-	sp	w,sp,f	w,sp,s,f
Petrolisthes galathinus	-	w,s,f	w,sp	-	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Decapoda - Pleocyemata - Brachyura					
Cancridae					
Cancer irroratus	w	sp	-	-	-
Dorippidae					
Ethusa mascarone americana	-	-	-	-	w
Dromiidae					
Dromidia antillensis	w,sp,s,f	sp,s,f	w,sp,f	w,sp,s,f	sp,s,f
Goneplacidae					
Glyptoplax smithi	-	-	-	-	f
Grapsidae					
Euchirograpsus americanus	-	-	-	-	sp,s
Planes minutus	-	-	-	-	f
Homolidae					
Homola barbata	-	-	-	-	sp,s
Homolidae A	-	-	-	-	sp
Leucosiidae					
Iliacantha intermedia	-	-	-	-	w
Majidae					
Batrochonotus fragosus	-	-	-	-	s
Collodes trispinosus	-	-	-	-	s
Libinia dubia	s	-	-	-	-
Libinia emarginata	w	-	-	-	-
Macrocoeloma camptocerum	w	w,sp	-	-	-
Macrocoeloma trispinosum	w,sp	sp,s,f	s,f	-	-
Metaporaphis calcaratta	sp	w,sp	sp	-	s
Mithrax acuticornis	-	-	sp	-	sp,s
Mithrax forceps	-	s	w,sp	w,sp	-
Mithrax pleuracanthus	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	-
Pelia mutica	-	sp	sp	-	sp
Podochela gracilipes	-	-	-	-	sp,s
Podochela riisei	w,sp	w,sp,s,f	w,sp	-	-
Podochela sidneyi	w	w	-	-	w,f
Stenocionops furcata coelata	sp	-	sp,s	sp	w,sp,s,f
Stenorhynchus seticornis	-	w	-	-	sp,s,f
Palicidae					
Palicus faxoni	-	-	-	-	s
Parthenopidae					
Parthenope fraterculus	-	-	-	-	sp,s
Portunidae					
Ovalipes stephensoni	w,s	s	s	sp	-
Portunus gibbesii	s	s	s	-	-
Portunus ordwayi	-	-	-	-	f
Portunus spinicarpus	-	-	-	-	sp,s
Portunus spinimanus	-	-	-	sp	s
Xanthidae					
Carpoporus papulosus	-	-	-	-	s
Glyptoxanthus erosus	-	-	f	sp	w
Lobopilumnus agassizii	-	-	-	-	s
Pilumnus dasypodus	sp,s,f	w,sp,s,f	w,sp,f	w	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Pilumnus floridanus	s	w,sp,s	sp	w,sp,f	sp
Pilumnus pannosus	sp,s,f	w,sp,s,f	sp,s	-	-
Pilumnus sayi	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	sp,f
Pseudomedaeus agassizii	-	w,sp	w,sp,s	w,sp,f	w,sp,s,f
Xanthidae A	-	-	sp	-	sp
Bryozoa					
Stenolaemata					
Cyclostomata					
Crisiidae					
Crisia sp.	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp
Diaperoeciidae					
Diaperoecia floridana	-	-	w,sp,s	w,sp,s,f	w,sp,s,f
Lichenoporidae					
Lichenopora radiata	-	-	-	w,sp,f	-
Oncousoeciidae					
Proboscina floridana	-	-	-	sp	-
Plagioeciidae					
Plagioecia dispar	-	-	-	s,f	-
Gymnolaemata					
Ctenostomata					
undetermined Ctenostomata	s	w,f	w,sp,s	sp,f	w,sp,s,f
Alcyonidiidae					
Alcyonidium sp.	f	-	w,sp	-	w,s
Buskiidae					
Buskia sp.	sp	sp	sp	-	-
Nollelidae					
Nolella stipata	w,sp	w,s,f	w,sp,s	w	w,sp
Valkeriidae					
Aeverrillia setigera	f	s,f	w,sp,s,f	sp,s,f	w
Vesiculariidae					
Amathia alternata	s	s,f	w,s,f	f	w,sp,s,f
Amathia convoluta	-	-	-	sp	-
Amathia distans	s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Victorellidae					
Sundanella sibogae	sp,s,f	sp,s,f	sp,f	sp	sp,s,f
Cheilostomata - Anasca					
Aeteidae					
Aetea anguina	w,sp,f	w,sp,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Aetea truncata	w	-	sp	w	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Alderinidae					
Alderina smitti	-	-	sp,f	w,s,f	-
Antropora tincta	sp,s,f	w,sp,s,f	w,sp,s	sp,s	sp,s
Copidozum tenuirostre	-	-	-	w,sp,f	-
Crassimarginatella leucocypha	w,sp,s	w,sp	w	w,sp	w
Parellisina curvirostris	-	-	w,sp,s,f	w,sp,s,f	sp,s,f
Parellisina latirostris	-	-	f	-	-
Bugulidae					
Bugula fulva	s	w,sp	w,sp,s,f	w,sp,s,f	w
Bugula grayi	-	-	sp,f	sp	-
Bugula marcusi	-	sp	-	sp	-
Bugula microoecia	-	-	w,sp,s	w,sp	w
Bugula rylandi	s,f	w,sp,f	w,sp,s,f	w,sp,s,f	w
Bugula sp.	-	-	sp,s,f	f	-
Bugula turrita	sp	w	-	-	-
Caulibugula dendrograpta	f	-	f	s	-
Caulibugula pearsei	sp,f	sp,f	-	sp,f	-
Cellariidae					
Cellaria nodosa	-	-	-	-	sp
Chaperiidae					
Chaperia sp.	s,f	sp,s,f	w,sp,s,f	w,sp,s,f	w
Cupuladriidae					
Cupuladria doma	-	-	-	w,sp	w
Discoporella umbellata	-	-	-	-	s,f
Electrinidae					
Electra lacinosa	-	-	-	w,sp,s	-
Epistomiidae					
Synnotum aegyptiacum	-	-	-	f	-
Farciminariidae					
Nellia tenella	-	-	s,f	s,f	sp,s
Hincksinidae					
Aplousina gigantea	-	-	-	-	w,sp,s,f
Aplousina tuberosa	-	-	-	w,sp	-
Membraniporidae					
Membranipora savartii	-	-	w,sp	w	sp
Membranipora tenuis	sp,s,f	-	sp,f	-	sp
Microporidae					
Micropora coriacea	-	-	-	-	sp
Onychocellidae					
Floridina antiqua	-	sp	-	s	sp,s
Smittipora levinseni	-	f	w,sp	w	s
Scrupocellariidae					
Caberia boryi	-	w	s	w,sp,s,f	-
Scrupocellaria bertholleti	f	f	-	-	-
Scrupocellaria regularis	w,s,f	w,s,f	f	-	-
Steganoporellidae					
Steganoporella magnilabris	-	w	sp	w,sp,s,f	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Cheilostomata - Cribrimorpha					
Cribrilinidae					
Cribrilaria floridana	-	-	-	w,sp,s,f	-
Cribrilaria radiata	s	s,f	-	w,sp,f	s
Membraniporella aragoi	-	-	-	-	s,f
Cheilostomata - Ascophora					
Adeonidae					
Reptadeonella hastingsae	s	w,s	w,sp,f	w,sp,s,f	s,f
Celleporariidae					
Celleporaria albirostris	w,s,f	-	w,sp,s,f	w,sp,s,f	w,sp,s,f
Celleporaria magnifica	w,s	w,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Celleporaria mordax	sp,s,f	w,sp,s,f	s,f	w	-
Celleporinidae					
Celleporina hassalli	sp,s,f	s	w,sp,s,f	sp,s	-
Turbicellepora dichotoma	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Cheiloporinidae					
Hippaliosina rostrigera	w,sp,s	w,sp,s	w,sp,s,f	w,sp,s	sp,s
Crepidacanthidae					
Crepidacantha poissoni teres	-	-	-	s,f	s
Exochellidae					
Exochella longirostris	-	-	-	sp	s
Hippoporinidae					
Hippopleurifera mucronata	-	-	sp,f	-	-
Hippoporella uvulifera	-	s	-	-	-
Hippoporidra janthina	-	sp,s,f	s,f	s	-
Hippoporina contracta	w,sp,s,f	s,f	w,s,f	w,sp	sp,f
Hippoporinidae A	-	-	-	sp	-
Hippothoidae					
Trypostega venusta	w,sp,s	sp,s,f	-	w,sp,s,f	f
Microporellidae					
Microporella ciliata	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Microporella marsupiata	w	-	-	sp,f	-
Microporella umbracula	w,sp,s	w,s,f	sp,f	w,sp,s,f	f
Petraliidae					
Petraliella bisinuata	f	-	w,sp,s,f	w,sp,s,f	w,sp,s,f
Petraliella marginata	-	-	-	-	s,f
Phylactellidae					
Phylactella aviculifera	-	-	-	sp,f	-
Schizoporellidae					
Arthropoma cecili	-	-	-	w,s,f	-
Cleidochasma porcellanum	s	-	sp	sp	w,s,f
Cycloperiella rubra	-	-	-	-	sp,s,f
Schizoporella cornuta	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Schizoporella errata	-	-	w,sp	w,sp,f	sp
Schizoporella floridana	s,f	-	w,sp,s,f	w,sp,s,f	w,f
Stylopoma informata	-	-	-	w	sp,s,f

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Sertellidae					
Rhyncozoon rostratum	-	f	f	sp	-
Rhyncozoon tuberculatum	-	-	-	sp,f	-
Smittinidae					
Parasmittina spathulata	s	w,sp,f	w,sp,s,f	w,sp,s,f	sp,s,f
Smittina smittiella	-	w,f	-	w,sp,s,f	-
Stomachetosellidae					
Bracebridgia subsulcata	-	-	-	f	-
Mollusca					
Gastropoda - Prosobranchia					
Archaeogastropoda					
Fissurellidae					
Diodora cayenensis	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,f	s
Trochidae					
Calliostoma euglyptum	-	s	-	f	-
Calliostoma pulchrum	-	-	sp	-	-
Calliostoma roseolum	-	-	-	-	sp
Mesogastropoda					
Crepidulidae					
Crepidula aculeata	s	w,s	w,sp	w,sp	-
Crepidula fornicata	-	-	-	sp	-
Crepidula plana	-	-	-	-	f
Cymatiidae					
Cymatium labiosum	-	-	-	s	-
Distorsio constricta macgintyi	-	-	-	-	f
Cypraeidae					
Cypraea cervus	-	w	-	-	w
Cypraea cinerea	-	-	-	w	-
Cypraea spurca acicularis	-	-	-	sp	f
Eratoidae					
Erato maugeriae	-	s	-	-	-
Trivia maltbiana	-	-	-	sp	s
Trivia nix	s	-	-	-	-
Trivia pendiculus	-	-	s	-	s
Ovulidae					
Simnia acicularis	-	-	s	-	-
Simnia uniplicata	-	sp	sp	-	-
Turritellidae					
Vermicularia knorrii	-	s,f	-	w,f	s,f
Tripnoridae					
Triphora nigrocincta	-	-	-	sp	-
Vermetidae					
Spiroglyphus irregularis	-	-	f	-	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Neogastropoda					
Buccinidae					
Cantharus multangulus	-	sp	-	-	-
Pisania tincta	f	w,sp,s,f	sp,s,f	sp,f	sp,f
Columbellidae					
Anachis avara	-	-	-	-	s
Anachis lafresnayi	sp	sp,s	-	f	s
Mitrella lunata	-	s	sp	-	-
Nassarina minor	-	-	-	-	s
Suturoglypta iontha	-	f	sp	-	-
Coralliophilidae					
Coralliophila caribaea	-	-	sp	-	-
Fasciolariidae					
Fasciolaria lilium hunteria	s	-	-	-	-
Fasciolaria tulipa	-	-	s	-	-
Pleuroploca gigantea	-	-	-	sp	-
Marginellidae					
Marginella roscida	-	-	-	f	-
Muricidae					
Calotrophon ostrearum	-	-	sp	-	-
Murex florifer dilectus	s	-	-	-	-
Murex pomum	-	-	-	f	-
Murex recurvirostris rubidus	-	f	-	-	-
Thais haemastoma florida	-	-	sp	-	-
Urosalpinx perrugata	-	sp	-	-	-
Nassariidae					
Nassarius albus	-	s	f	-	-
Nassarius vibex	-	-	-	w	-
Gastropoda - Opisthobranchia					
Aplysiacea					
Aplysiidae					
Aplysia willcoxi	s	-	-	-	-
Tylodinidae					
Pleurobranchaea hedgpeth	sp	-	-	-	-
Nudibranchia					
undetermined Nudibranchia	-	-	-	-	f
Bornellidae					
Bornella calcarata	-	-	w,sp	-	sp,s
Dendrodoridídae					
Dendrodoris krebsii	-	-	s	-	-
Dendrodoris warta	-	-	-	w	w
Dorididae					
Anisodoris worki	-	-	w	-	-
Hypselodoris edenticulata	-	-	-	sp	-
Taringa aivica	sp	-	-	-	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Dotodae					
Doto doerga (?)	-	-	s	-	-
Pelecypoda					
Arcoida					
Arcidae					
Anadara notabilis	-	-	-	sp	-
Arca imbricata	w,s	w,sp,s,f	w,sp,s	sp,s	-
Arca zebra	w	-	w	w,f	-
Barbatia candida	-	-	-	f	sp
Barbatia domingensis	-	-	-	sp	-
Mytiloida					
Mytilidae					
Gregariella coralliophaga	-	-	-	sp	-
Lithophaga antillarum	-	-	sp	sp	-
Lithophaga aristata	-	-	sp	sp	-
Lithophaga bisulcata	-	sp,f	s	sp	sp
Modiolus americanus	f	sp	-	w,s	-
Musculus lateralis	f	s,f	sp,s	-	-
Pinnidae					
Pinna carnea	-	-	w	-	-
Pterioida					
Anomiidae					
Anomia simplex	-	-	f	s	-
Anomia squamula	-	-	sp	-	-
Pododesmus rudis	-	sp	sp	-	-
Pectinidae					
Chlamys benedicti	-	-	-	sp	w,sp,s,f
Lyropecten nodosus	-	-	-	f	w,f
Plicutulidae					
Plicatula gibbosa	w	-	-	-	-
Pteriidae					
Pteria colymbus	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Ostreina					
Ostreidae					
Crassostrea virginica	-	-	-	w	-
Lopha frons	-	-	w,sp	s	-
Ostrea equestris	s	-	w,s	sp,s	-
Ostrea frons	-	-	w	-	-
Ostrea permolis	w	s	w	w	-
Veneroida					
Chamidae					
Chama congregata	w	w,sp,s,f	w,sp,s,f	w,sp	s
Chama macerophylla	-	-	sp	sp	-
Pseudochama radians	-	w	-	-	-

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Veneridae					
Chione grus	-	-	-	sp	-
Gouldia cerina	-	-	-	f	-
Myoida					
Corbulidae					
Corbula chittyana	-	-	-	sp	-
Gastrochaenidae					
Gastrochaena hians	-	sp	-	sp	sp
Spengleria rostrata	-	-	-	sp	-
Hiatellidae					
Hiatella arctica	w,s	s,f	sp,s	w,sp,s,f	sp,s,f
Pholadomyoida					
Lyonsiidae					
Lyonsia beana	w,s,f	-	f	-	-
Cephalopoda					
Sepioidea					
Sepiolidae					
Rossia sp.	w	-	-	-	-
Teuthoidea					
Loliginidae					
Loligo pealei	w	w	-	s	s
Loligo plei	sp,s	w,sp,s	sp,s	-	s
undetermined Loliginidae	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Ommastrephidae					
Illex illecebrosus	-	-	f	-	-
Octopoda					
Octopodidae					
Octopus sp.	-	w	sp	sp	sp
Echinodermata					
Crinoidea					
Comasteridae					
Comactinia meridionalis	-	-	w,sp,f	w,sp	-
Stelleroidea - Asteroidea					
Platyasterida					
Luidiidae					
Luidia alternata	w,sp,s	sp,f	-	sp	-
Luidia clathrata	-	sp	-	sp	s

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Paxillosida					
Astropectinidae					
Astropecten articulatus	-	-	w	-	-
Astropecten comptus	-	-	w,s	-	w,sp
Astropecten sp.	-	-	-	-	sp,s
Valvatida					
Ophidiasteridae					
Narcissia trigonaria	-	-	-	-	s
Spinulosida					
Echinasteridae					
Echinaster brasiliensis	-	-	-	-	s,f
Echinaster modestus	-	-	w	-	w
Echinaster serpentarius	w	w	-	-	-
Echinaster sp.	sp,s,f	sp,s,f	sp,s,f	sp,s	sp,s,f
Forcipulata					
Asteriidae					
Asterias forbesii	w,sp	sp	-	-	sp
Stelleroidea - Ophiuroidea					
Ophiuroidea A	-	-	w	-	-
Ophiuroidea B	-	-	w	-	-
Phyronophiurida - Euryalina					
Gorgonocephalidae					
Astrophyton muricatum	sp	s	w,sp,s,f	w,sp,s,f	w,sp,s,f
Astroporpa annulata	-	-	-	sp,s,f	w,sp,s,f
Ophiurida					
Amphiuridae					
Amphiodia pulchella	-	-	-	s	-
Axiognathus squamatus	-	-	-	sp,s	-
Ophiostigma isacanthum	-	-	-	s	-
Ophiactidae					
Ophiactis savignyi	-	-	sp	sp,s	-
Ophiodermatidae					
Ophioderma brevispinum	-	-	w,sp	sp,s	-
Ophiothricidae					
Ophiothrix angulata	w,sp,s	w,sp,s,f	w,sp,s	w,sp,s,f	w,sp,s
Ophiothrix suensonii	-	-	-	-	w,s

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Echinoidea					
Cidaroida					
Cidaridae					
Eucidaris tribuloides	-	-	-	w,sp,s	w,sp,f
Arbacoida					
Arbaciidae					
Arbacia punctulata	w,sp,s,f	w,sp,s,f	w,sp,s	sp,s	s,f
Temnopleuroida					
Temnopleuridae					
Genocidaris maculata	-	-	-	s	s
Toxopneustidae					
Lytechinus variegatus	w,s,f	w,sp,s,f	-	w,sp,s,f	-
Holothuroidea					
Dendrochirotida					
Cumariidae					
Ocnus pygmaeus	w,sp,s,f	w,sp,s,f	w	w	-
Aspidochirotida					
Holothuridae					
Holothuria dakarensis	-	sp	-	-	-
Holothuria princeps	-	-	f	-	-
Holothuria surinamensis	-	-	sp	-	-
Synallactidae					
Isostichopus badinotus	-	-	w,f	-	s
Chordata					
Ascidiacea					
Ascidiacea A	s	w,sp,f	-	-	-
undetermined Ascidiacea	-	w,f	-	-	-
Enterogona					
Ascidiidae					
Ascidia curvata	f	f	s,f	s	sp
Ascidia sp. A	-	sp,s,f	-	-	-
Clavelinidae					
Clavelina gigantea	s	w	w,sp,s,f	w,sp,f	-
Clavelina picta	w	w	-	sp	-
Clavelina sp.	w,sp,s,f	w,sp,s,f	sp,s,f	w,sp,s	w
Clavelina sp. D	s	-	-	sp	-
Distaplia bermudensis	w,sp,s,f	w,sp,s.f	w,sp,s,f	sp,f	w
Eudistoma carolinense	-	-	sp	s	sp,s

Appendix 2. (Continued)

	IS01	IS02	MS02	MS06	OS01
Euristoma olivaceum	w	-	-	-	-
Euristoma sp.	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,s,f
Didemnidae					
Didemnum candidum	w,sp,s,f	w,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f
Didemnum sp.	-	-	sp	-	w
Didemnum speciosum	sp,s	-	f	-	s
Diplosoma macdonaldi	w,sp,f	w,sp,s,f	w,sp,s,f	sp,f	w,sp,s
Tridemnum savignii	sp	sp	-	s	sp,s
Tridemnum sp.	sp,s	sp,s,f	w,sp,s	sp	w,s,f
Polyclinidae					
Aplidium bermudae	w	-	-	-	-
Aplidium constellatum	w	w	w	-	-
Aplidium exile	-	-	-	w	-
Aplidium pellucidum	w,s	-	-	-	sp,s
Aplidium sp. A	-	-	sp	w	-
Aplidium sp. B	-	-	w,sp	-	w
Aplidium sp. D	-	-	-	sp	-
Aplidium stellatum	w	w	w	w	-
Pleurogona					
Molgulidae					
Molgula occidentalis	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	-
Pyuridae					
Pyura vittata	w	sp	sp,f	-	-
Styelidae					
Botrylloides nigrum	f	sp,f	sp,s	sp	f
Botryllus planus	s	sp,s,f	w,s,f	sp	-
Polyandrocarpa floridana	-	-	w,sp,s,f	w,sp,s,f	sp
Polyandrocarpa gravei	f	-	w,sp,s,f	-	-
Polyandrocarpa tincta	-	-	f	-	-
Styela partita	w,sp,s,f	w,sp,s,f	sp,f	-	-
Styela plicata	w,sp,s,f	w,sp,s,f	w,sp,s,f	w,sp,s,f	-
Symplegma viride	sp,s,f	s,f	sp,s	-	f

Appendix 3. Ranked abundance of invertebrate species collected by suction and grab samplers at each station off South Carolina and Georgia during 1981. Average ($\bar{x}$) density, expressed as number per 0.10 m^2, and ranked abundance for each season are indicated along with rank for all seasons combined.

STATION IS01

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
1.0	FILOGRANA IMPLEXA	3.2	2.9	•	•	0.2	0.2	182.4	124.8
2.0	SYLLIS SPONGICOLA	6.6	5.6	4.8	3.2	14.8	14.3	55.0	53.3
3.0	ERICHTHONIUS BRASILIENSIS	41.0	27.3	3.4	1.1	4.0	2.6	1.0	0.8
4.0	AXIOTHELLA MUCOSA	3.6	2.0	29.4	17.6	14.4	4.8	1.8	0.8
5.0	EXOGONE DISPAR	16.8	6.2	4.6	1.9	1.6	0.6	14.2	2.7
6.0	LUCONACIA INCERTA	22.6	11.5	4.6	2.4	0.8	0.4	3.6	1.4
7.0	AMPHARETE AMERICANA	28.0	9.5	0.2	0.2	0.4	0.2	•	•
8.0	PHOTIS SP.	24.8	11.3	0.8	0.4	0.8	0.5	1.6	0.9
9.0	ELASMOPUS SP. A	1.4	0.9	20.0	11.2	2.4	0.8	2.2	1.9
10.0	GAMMAROPSIS SP.	9.0	3.6	11.2	8.0	0.4	0.2	0.4	0.2
11.0	CAPRELLA EQUILIBRA	16.8	8.2	2.8	1.6	•	•	•	•
12.0	PODOCERUS SP.	13.6	4.1	1.0	0.0	0.6	0.2	2.2	0.9
13.0	LEUCOTHOE SPINICARPA	1.4	1.2	7.4	6.2	5.2	5.2	2.2	2.2
14.0	RILDARDANUS LAMINOSA	6.2	1.3	5.8	3.0	1.2	0.2	2.2	0.6
15.0	MICRODEUTOPUS MYERSI	14.2	6.9	•	•	•	•	0.2	0.2
16.0	AMPELISCA SCHELLENBERGI	4.2	1.3	1.2	0.7	2.6	0.5	5.6	1.8
17.0	OWENIA FUSIFORMIS	8.4	4.8	3.2	2.2	1.2	0.8	0.6	0.2
18.0	CARPIAS BERMUDENSIS	0.6	0.4	7.6	2.8	1.6	1.1	3.4	3.1
19.0	PRIONOSPIO CRISTATA	12.0	8.0	•	•	•	•	1.0	0.8
20.0	NEMATODA	4.8	1.9	2.6	1.2	1.6	0.7	3.8	1.1
21.5	ASPIDOSIPHON GOSNOLDI	4.4	2.1	1.0	0.4	2.6	0.9	4.2	2.5
21.5	MEGALOBRACHIUM SORIATUM	1.4	0.9	4.4	3.0	0.6	0.6	5.8	5.1
23.0	SIPUNCULIDA	7.6	5.4	0.2	0.2	0.6	0.2	3.6	1.5
24.0	GOULDIA CERINA	1.4	0.4	1.4	0.7	5.6	0.7	1.2	0.6
25.0	CHONE AMERICANA	4.4	1.6	1.8	1.2	1.4	0.4	1.8	1.2
26.5	MALACOCEROS GLUTAEUS	0.4	0.2	0.2	0.2	2.8	1.5	5.4	2.1
26.5	PARACERCEIS CAUDATA	1.8	0.7	2.0	0.8	1.4	0.7	3.6	1.1
28.0	OPHIOTHRIX ANGULATA	1.4	0.7	2.4	1.2	0.2	0.2	3.8	3.3
29.0	SYLLIS HYALINA	1.8	1.0	1.8	1.0	0.8	0.4	3.2	1.5
30.5	ERICHSONELLA FILIFORMIS	0.2	0.2	3.0	1.3	3.4	1.5	0.6	0.2
30.5	PAGURUS CAROLINENSIS	0.4	0.2	1.2	1.0	0.4	0.4	5.2	2.8
32.0	EUNICE VITTATA	1.4	0.5	0.6	0.4	2.6	2.6	2.4	0.8
33.0	LUCIFER FAXONI	•	•	0.2	0.2	6.6	4.1	•	•
34.0	AMPHIODIA PULCHELLA	5.0	4.1	0.6	0.6	0.2	0.2	0.6	0.4
35.5	HYDROIDES CRUCIGERA	1.6	1.1	0.6	0.2	1.0	0.4	3.0	2.1
35.5	MARGINELLA HARTLEYANUM	1.8	0.5	2.0	0.7	2.0	0.8	0.4	0.4
38.0	CHAMA CONGREGATA	1.2	0.7	0.8	0.6	1.0	0.5	3.0	2.3
38.0	LEPTOCHELIA SP.	3.0	2.0	1.8	1.0	0.8	0.4	0.4	0.4
38.0	MELITA APPENDICULATA	1.0	0.3	5.0	4.3	•	•	•	•
40.0	BOTULA FUSCA	1.6	1.0	0.8	0.5	0.2	0.2	3.2	1.0
41.0	HYDROIDES SP. A	1.4	0.5	1.0	0.4	0.8	0.5	2.4	1.1
42.0	TURBELLARIA	2.8	1.1	•	•	0.8	0.4	1.8	1.1
43.5	NEMERTINEA	3.4	1.2	0.2	0.2	1.2	0.5	0.4	0.2
43.5	SPIOPHANES BOMBYX	4.6	2.6	0.4	0.4	0.2	0.2	•	•
45.0	LAEVICARDIUM PICTUM	0.2	0.2	1.4	0.7	1.0	0.5	2.4	0.8
46.0	CHRYSOPETALIDAE A	2.0	1.5	0.8	0.6	1.2	0.6	0.8	0.4
47.5	OPHIOSTIGMA ISACANTHUM	1.4	1.4	0.8	0.5	1.4	0.5	1.0	1.0
47.5	PILUMNUS SP.	0.2	0.2	1.6	0.9	0.2	0.2	2.6	1.3
50.0	LUMBRINERIS INFLATA	1.8	1.0	0.6	0.4	1.2	0.6	0.8	0.4
50.0	LYSIANOPSIS ALBA	•	•	0.6	0.2	2.6	1.4	1.2	0.6
50.0	PRIONOSPIO CIRRIFERA	4.0	2.4	•	•	0.2	0.2	0.2	0.2
52.5	LITHOPHAGA BISULCATA	0.2	0.2	1.2	1.0	0.4	0.2	2.4	0.7
52.5	POLYCIRRUS CAROLINENSIS	1.6	0.7	0.2	0.2	0.2	0.2	2.2	1.1
54.5	CERATONEREIS MIRABILIS	0.6	0.2	0.2	0.2	0.4	0.4	2.8	1.1
54.5	PAGURIDEA	•	•	0.4	0.2	•	•	3.6	2.6

Appendix 3. (Continued)

STATION IS01

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
57.0	AMPITHOE SP. A	0.6	0.4	0.6	0.2	1.4	0.9	1.2	0.6
57.0	PAGURUS HENDERSONI	1.0	0.4	0.4	0.4	1.0	0.8	1.4	0.7
57.0	PITHO LHERMINIERI	1.6	1.2	.	.	0.6	0.4	1.6	0.5
61.5	MEGALOMMA BIOCULATUM	0.8	0.6	1.6	0.5	0.6	0.4	0.6	0.4
61.5	PELIA MUTICA	0.2	0.2	1.4	0.7	0.6	0.6	1.4	1.4
61.5	POTAMILLA SP.	0.2	0.2	0.2	0.2	.	.	3.2	2.5
61.5	PSEUDOMEDAEUS AGASSIZII	.	.	1.0	0.8	1.6	1.1	1.0	0.3
61.5	SPIO SP. A	3.2	1.9	0.4	0.4	.	.	.	.
61.5	SUTUROGLYPTA IONTHA	1.8	0.6	1.4	0.5	.	.	0.4	0.2
65.0	ARMANDIA MACULATA	3.4	3.1	.	.	.	.	.	.
66.0	EULALIA SANGUINEA	2.2	0.9	.	.	0.2	0.2	0.8	0.5
67.5	PAGURIDAE	2.4	0.9	0.6	0.4	.	.	.	.
67.5	SERPULIDAE	0.4	0.2	0.6	0.4	0.8	0.2	1.2	0.5
70.0	CREPIDULA ACULEATA	0.6	0.4	0.2	0.2	0.6	0.6	1.4	1.2
70.0	DIPLODONTA SEMIASPERA	0.4	0.2	.	.	0.4	0.2	2.0	0.6
70.0	PODARKE OBSCURA	0.6	0.4	1.6	0.7	0.2	0.2	0.4	0.4
73.0	CRASSINELLA LUNULATA	0.4	0.4	0.4	0.2	1.0	0.4	0.8	0.4
73.0	NOTOMASTUS SP.	0.8	0.6	.	.	0.6	0.4	1.2	0.7
73.0	PAGURUS SP.	1.2	0.5	0.6	0.4	0.2	0.2	0.6	0.6
76.0	AMPELISCA VADORUM	2.0	0.8	.	.	0.2	0.2	0.2	0.2
76.0	PAGURISTES SP.	0.6	0.4	0.6	0.4	0.4	0.2	0.8	0.5
76.0	PAGURISTES TORTUGAE	1.4	0.7	0.2	0.2	0.2	0.2	0.6	0.2
79.5	CERITHIUM ATRATUM	0.4	0.4	0.4	0.4	0.8	0.4	0.6	0.4
79.5	PHYLLOCHAETOPTERUS SOCIALIS	1.0	0.6	.	.	0.2	0.2	1.0	0.8
79.5	POTAMILLA RENIFORMIS	.	.	0.2	0.2	0.4	0.4	1.6	1.0
79.5	SIPUNCULIDA A	0.6	0.6	0.8	0.5	0.6	0.4	0.2	0.2
85.5	ACANTHOCHITONA PYGMAEA	1.4	1.0	.	.	0.2	0.2	0.4	0.4
85.5	HYDROIDES UNCINATA	0.2	0.2	0.8	0.4	0.2	0.2	0.8	0.6
85.5	LOIMIA MEDUSA	1.8	0.7	.	.	0.2	0.2	.	.
85.5	MAJIDAE A	.	.	0.8	0.6	.	.	1.2	0.6
85.5	MITHRAX PLEURACANTHUS	0.8	0.6	0.8	0.2	.	.	0.4	0.4
85.5	SICYONIA SP.	0.2	0.2	.	.	0.2	0.2	1.6	1.2
85.5	VERMILIOPSIS ANNULATA	0.4	0.4	.	.	0.2	0.2	1.4	0.5
85.5	WEBSTERINEREIS TRIDENTATA	0.4	0.4	0.6	0.6	0.2	0.2	0.8	0.4
93.0	ARABELLA MUTANS	0.6	0.2	0.6	0.4	0.4	0.2	0.2	0.2
93.0	ARCA IMBRICATA	.	.	1.4	0.9	0.4	0.2	.	.
93.0	BRACHYURA	.	.	1.4	0.2	.	.	0.4	0.2
93.0	GASTROCHAENA HIANS	0.2	0.2	0.2	0.2	0.8	0.4	0.6	0.4
93.0	LEMBOS UNICORNIS	0.4	0.4	0.8	0.4	0.4	0.2	0.2	0.2
93.0	RUDILEMBOIDES NAGLEI	1.6	0.9	0.2	0.2	.	.	.	.
93.0	TANYSTYLUM CALICIROSTRE	0.8	0.6	.	.	.	.	1.0	0.8
100.0	DIPLODONTA PUNCTATA	0.2	0.2	1.0	0.8	0.2	0.2	0.2	0.2
100.0	OPHIACTIS SAVIGNYI	.	.	1.2	1.2	0.4	0.2	.	.
100.0	PARAPHOXUS SPINOSUS	1.2	0.2	0.4	0.2	.	.	.	.
100.0	PILUMNUS SAYI	1.2	0.6	0.4	0.2	.	.	.	.
100.0	POLYDORA WEBSTERI	0.8	0.6	0.2	0.2	0.2	0.2	0.4	0.2
100.0	SYLLIS GRACILIS	0.2	0.2	0.4	0.2	.	.	1.0	0.8
100.0	THELEPUS SETOSUS	0.6	0.6	.	.	.	.	1.0	0.6
110.0	AMPHIPODA B	0.2	0.2	.	.	0.8	0.5	0.4	0.4
110.0	ANCISTROSYLLIS RIGIDA	.	.	0.6	0.6	0.2	0.2	0.6	0.4
110.0	BOWMANIELLA PORTORICENSIS	.	.	.	.	.	.	1.4	0.6
110.0	CAPITELLIDAE D	0.4	0.2	.	.	.	.	1.0	0.5
110.0	CHIONE GRUS	0.2	0.2	0.6	0.6	.	.	0.6	0.6
110.0	CORBULA CONTRACTA	0.6	0.4	.	.	0.4	0.2	0.4	0.4
110.0	HYBOSCOLEX LONGISETA	1.0	0.5	.	.	.	.	0.4	0.4

Appendix 3. (Continued)

STATION IS01

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
110.0	LEMBOS SMITHI	1.2	0.6	0.2	0.2	•	•	•	•
110.0	MAERA WILLIAMSI	0.2	0.2	•	•	1.2	1.2	•	•
110.0	POLYDORA CAECA	0.6	0.2	•	•	•	•	0.8	0.6
110.0	STROMBIFORMIS BILINEATUS	1.2	0.7	•	•	•	•	0.2	0.2
110.0	SYLLIS CORNUTA	0.8	0.4	0.6	0.4	•	•	•	•
110.0	SYNALPHEUS TOWNSENDI	0.2	0.2	0.6	0.4	0.2	0.2	0.4	0.4
123.5	AMPHIPODA E	0.6	0.4	0.6	0.4	•	•	•	•
123.5	ANCHIALINA TYPICA	•	•	0.2	0.2	1.0	0.4	•	•
123.5	CANCER IRRORATUS	1.2	0.6	•	•	•	•	•	•
123.5	CAPITELLIDAE	0.2	0.2	•	•	0.4	0.4	0.6	0.6
123.5	CAULLERIELLA KILLARIENSIS	1.2	0.6	•	•	•	•	•	•
123.5	CUMINGIA TELLINOIDES	0.2	0.2	0.2	0.2	0.6	0.4	0.2	0.2
123.5	MAERA SP. A	0.2	0.2	•	•	1.0	1.0	•	•
123.5	MANGELIA RUGIRIMA	0.4	0.2	0.2	0.2	0.2	0.2	0.4	0.4
123.5	MICROPANOPE SP.	0.2	0.2	1.0	0.8	•	•	•	•
123.5	PAGURUS HENDERSONI *	0.4	0.4	•	•	•	•	0.8	0.8
123.5	PHERUSA INFLATA	0.2	0.2	•	•	0.6	0.2	0.4	0.4
123.5	SPIO PETTIBONEAE	1.0	0.5	•	•	•	•	0.2	0.2
123.5	SYNALPHEUS SP.	•	•	1.2	0.6	•	•	•	•
123.5	TURBONILLA HEMPHILLI	0.2	0.2	•	•	•	•	1.0	1.0
141.5	ASPIDOSIPHON ALBUS	0.4	0.4	•	•	0.4	0.2	0.2	0.2
141.5	AUTOLYTUS SP.	•	•	•	•	0.8	0.6	0.2	0.2
141.5	BODOTRIIDAE A	0.8	0.4	•	•	•	•	0.2	0.2
141.5	CAPITELLA CAPITATA	0.2	0.2	•	•	0.8	0.5	•	•
141.5	CARIDEA	0.6	0.6	0.2	0.2	0.2	0.2	•	•
141.5	COLOMASTIX SP.	•	•	0.8	0.8	•	•	0.2	0.2
141.5	INACHOIDES FORCEPS	0.8	0.4	0.2	0.2	•	•	•	•
141.5	ISCHNOCHITONIDAE A	0.8	0.8	•	•	0.2	0.2	•	•
141.5	LYSIANASSA SP.	•	•	1.0	1.0	•	•	•	•
141.5	MARGINELLA AUREOCINCTA	•	•	0.6	0.4	0.2	0.2	0.2	0.2
141.5	MARGINELLA ROSCIDA	0.6	0.4	•	•	0.4	0.4	•	•
141.5	MEGALUROPUS SP.	•	•	•	•	•	•	1.0	0.4
141.5	MICROPHOLIS PACHYBACTERA	1.0	1.0	•	•	•	•	•	•
141.5	MITRELLA LUNATA	0.8	0.4	•	•	•	•	0.2	0.2
141.5	MUREX FLORIFER DILECTUS	0.2	0.2	•	•	•	•	0.8	0.5
141.5	MUSCULUS LATERALIS	•	•	•	•	•	•	1.0	0.6
141.5	OCNUS PYGMAEUS	0.2	0.2	0.4	0.2	0.4	0.4	•	•
141.5	TELLINA AMERICANA	0.6	0.6	•	•	•	•	0.4	0.2
141.5	THOR SP.	0.2	0.2	•	•	•	•	0.8	0.6
141.5	TRICHOBRANCHUS GLACIALIS	0.8	0.8	0.2	0.2	•	•	•	•
141.5	VERMICULARIA KNORRII	•	•	•	•	•	•	1.0	1.0
141.5	XANTHIDAE	0.2	0.2	0.4	0.4	•	•	0.4	0.4
166.5	AMPELISCA SP. C	•	•	•	•	•	•	0.8	0.6
166.5	ARBACIA PUNCTULATA	•	•	0.4	0.2	0.2	0.2	0.2	0.2
166.5	BATRACHONOTUS FRAGOSUS	0.4	0.4	0.2	0.2	•	•	0.2	0.2
166.5	CRATENA KAORUAE	0.8	0.6	•	•	•	•	•	•
166.5	DODECACERIA CORALLII	0.6	0.6	0.2	0.2	•	•	•	•
166.5	ERATO MAUGERIAE	0.4	0.2	0.4	0.2	•	•	•	•
166.5	EUNICE ANTENNATA	•	•	0.4	0.2	•	•	0.4	0.4
166.5	GLYCYMERIS PECTINATA	0.2	0.2	0.4	0.4	0.2	0.2	•	•
166.5	HARMOTHOE SP. A	0.8	0.5	•	•	•	•	•	•
166.5	HIATELLA ARCTICA	0.2	0.2	0.4	0.4	•	•	0.2	0.2
166.5	HYPOCONCHA SABULOSA	0.2	0.2	•	•	•	•	0.6	0.2
166.5	LATREUTES PARVULUS	•	•	0.2	0.2	•	•	0.6	0.2
166.5	LEPTOCHELA PAPULATA	0.2	0.2	•	•	0.2	0.2	0.4	0.2

Appendix 3. (Continued)

STATION IS01

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
166.5	MEDIOMASTUS CALIFORNIENSIS	0.8	0.4						
166.5	MICROPANOPE SP. *	0.8	0.8						
166.5	MICROPROTOPUS SP.	0.8	0.2						
166.5	OLIGOCHAETA	0.2	0.2	0.4	0.4			0.2	0.2
166.5	OSTRACODA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
166.5	PHYLLODOCE SP.			0.2	0.2			0.6	0.4
166.5	PINNIXA SP.	0.6	0.4	0.2	0.2				
166.5	PLEUROMERIS TRIDENTATA	0.4	0.4	0.4	0.4				
166.5	POLYCHERIA SP.	0.4	0.4			0.4	0.4		
166.5	POLYPLACOPHORA A							0.8	0.4
166.5	PROCERAEA SP.	0.2	0.2	0.2	0.2			0.4	0.4
166.5	PROCESSA SP.	0.2	0.2			0.2	0.2	0.4	0.4
166.5	SABELLARIA VULGARIS BEAUFORTENSIS	0.8	0.4						
166.5	TANYSTYLIDAE A	0.6	0.4			0.2	0.2		
166.5	XANTHIDAE A			0.6	0.2			0.2	0.2
197.0	ALPHEUS NORMANNI	0.2	0.2			0.4	0.2		
197.0	AMERICARDIA MEDIA			0.4	0.2	0.2	0.2		
197.0	AMPHIPODA J			0.2	0.2	0.4	0.4		
197.0	ANOPLODACTYLUS PETIOLATUS	0.2	0.2	0.2	0.2			0.2	0.2
197.0	CERATONEREIS SP.			0.6	0.4				
197.0	CHRYSOPETALIDAE B	0.4	0.2					0.2	0.2
197.0	CORBULA BARRATTIANA			0.6	0.4				
197.0	DIASTYLIDAE A	0.2	0.2			0.4	0.2		
197.0	EULALIA MACROCEROS							0.6	0.4
197.0	GONIADIDES CAROLINAE					0.4	0.4	0.2	0.2
197.0	HYDROIDES SP. B					0.2	0.2	0.4	0.4
197.0	LEMBOS UNIFASCIATUS REDUCTUS					0.2	0.2	0.4	0.4
197.0	LITHOPHAGA ARISTATA			0.4	0.4	0.2	0.2		
197.0	LUCAPINELLA LIMATULA	0.2	0.2					0.4	0.2
197.0	LYONSIA BEANA					0.2	0.2	0.4	0.2
197.0	MAJIDAE							0.6	0.4
197.0	MALDANIDAE	0.2	0.2	0.2	0.2			0.2	0.2
197.0	MARGINELLA CARNEA			0.2	0.2	0.2	0.2	0.2	0.2
197.0	MEGALOMMA SP. A	0.6	0.4						
197.0	MONOCULODES SP.	0.4	0.2	0.2	0.2				
197.0	NEOPONTONIDES BEAUFORTENSIS			0.2	0.2			0.4	0.2
197.0	PELECYPODA B	0.2	0.2	0.4	0.4				
197.0	PETALOPROCTUS SOCIALIS	0.6	0.2					0.4	0.4
197.0	PISTA PALMATA	0.2	0.2						
197.0	PSEUDEURYTHOE AMBIGUA			0.2	0.2	0.4	0.2		
197.0	PSEUDOVERMILIA SP. A	0.2	0.2	0.2	0.2			0.2	0.2
197.0	SABELLIDAE	0.2	0.2			0.4	0.2		
197.0	SERPULIDAE H							0.6	0.4
197.0	SERPULIDAE K			0.2	0.2	0.4	0.2		
197.0	SICYONIA TYPICA							0.6	0.6
197.0	SPIONIDAE B	0.4	0.4	0.2	0.2				
197.0	TIRON TROPAKIS	0.4	0.4					0.2	0.2
197.0	VARICORBULA OPERCULATA	0.6	0.2						
244.5	ACANTHOHAUSTORIUS MILLSI	0.4	0.2						
244.5	AMPHIODIA TRYCHNA							0.4	0.4
244.5	ANOPLODACTYLUS INSIGNIS	0.2	0.2					0.2	0.2
244.5	APANTHURA MAGNIFICA					0.4	0.2		
244.5	AUSTRAEOLIS CATINA	0.4	0.2						
244.5	CADULUS QUADRIDENTATUS					0.2	0.2	0.2	0.2
244.5	CHAETOPTERIDAE	0.4	0.2						

Appendix 3. (Continued)

STATION IS01

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
244.5	CHIONE LATILIRATA							0.4	0.2
244.5	CRASSISPIRA ALBOMACULATA					0.2	0.2	0.2	0.2
244.5	CREPIDULA PLANA	0.4	0.4						
244.5	CREPIDULA SP. *	0.4	0.2			0.2	0.2	0.2	0.2
244.5	DIODORA CAYENENSIS							0.4	0.4
244.5	DROMIDIA ANTILLENSIS							0.4	0.4
244.5	EBALIA STIMPSONI					0.2	0.2	0.2	0.2
244.5	ENDEIS SPINOSA								
244.5	ERICHTHONIUS SP. A	0.4	0.4					0.2	0.2
244.5	FAVARTIA CELLULOSA	0.2	0.2						
244.5	HEXAPANOPEUS SP. *	0.4	0.2			0.2	0.2	0.2	0.2
244.5	HOLOTHUROIDEA								
244.5	HYALINA ALBOLINEATA	0.2	0.2	0.2	0.2				
244.5	INACHOIDES FORCEPS *							0.4	0.4
244.5	LEMBOS SPINICARPUS INERMIS							0.4	0.4
244.5	LUMBRINERIS COCCINEA	0.2	0.2					0.2	0.2
244.5	LYONSIA SP.					0.4	0.2		
244.5	LYSIANASSIDAE A							0.4	0.4
244.5	MARPHYSA SP. A	0.2	0.2	0.2	0.2				
244.5	MICROPHRYS ANTILLENSIS							0.4	0.4
244.5	MITHRAX SP.							0.4	0.4
244.5	NEREIDAE							0.4	0.2
244.5	NEREIS SP.	0.2	0.2			0.2	0.2		
244.5	NICOMACHE TRISPINATA	0.2	0.2	0.2	0.2				
244.5	NOTOMASTUS HEMIPODUS	0.4	0.4						
244.5	OLIVELLA MINUTA					0.2	0.2	0.2	0.2
244.5	OPHIUROIDEA	0.4	0.4						
244.5	PERICLIMENES LONGICAUDATUS							0.4	0.4
244.5	PERICLIMENES SP.	0.4	0.2						
244.5	PHERUSA EHLERSI	0.4	0.2						
244.5	POLYCHAETA					0.4	0.2		
244.5	POLYCIRRUS EXIMIUS			0.2	0.2			0.2	0.2
244.5	PONTOGENIA SERICOMA	0.2	0.2					0.2	0.2
244.5	PROCESSA BERMUDENSIS	0.4	0.4						
244.5	SABELLARIA VULGARIS	0.4	0.2						
244.5	SCOLOPLOS SP. B					0.4	0.4		
244.5	SEMELE NUCULOIDES			0.2	0.2	0.2	0.2		
244.5	SICYONIA BREVIROSTRIS	0.2	0.2					0.2	0.2
244.5	SPIRORBIS SP.							0.4	0.4
244.5	STENOTHOE GEORGIANA	0.4	0.2						
244.5	SYLLIDAE							0.4	0.2
244.5	SYLLIDAE L					0.2	0.2	0.2	0.2
244.5	SYLLIDAE N					0.2	0.2	0.2	0.2
244.5	SYLLIS ALTERNATA					0.2	0.2	0.2	0.2
244.5	SYLLIS FERRUGINA					0.2	0.2	0.2	0.2
244.5	SYLLIS REGULATA CAROLINAE			0.2	0.2	0.2	0.2		
244.5	SYNCHELIDIUM AMERICANUM	0.4	0.4						
244.5	TEREBELLIDAE	0.4	0.4						
244.5	TRITONIA BAYERI MISA			0.2	0.2			0.2	0.2
244.5	TRYPANOSYLLIS SP.	0.4	0.4						
244.5	TRYPANOSYLLIS ZEBRA			0.2	0.2			0.2	0.2
244.5	TURBO CASTANEA	0.2	0.2					0.2	0.2
244.5	TURBONILLA INCISA	0.4	0.4						
244.5	WEBSTERINEREIS SP. A					0.2	0.2	0.2	0.2
244.5	XANTHIDAE B					0.2	0.2	0.2	0.2

Appendix 3. (Continued)

STATION IS01

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
351.0	ACROCIRRIDAE A	0.2	0.2						
351.0	ALPHEIDAE			0.2	0.2				
351.0	AMAEA RETIFERA	0.2	0.2						
351.0	AMPELISCA CRISTOIDES							0.2	0.2
351.0	AMPHARETE ACUTIFRONS	0.2	0.2						
351.0	AMPHILOCHUS SP.			0.2	0.2				
351.0	AMPHIPODA G					0.2	0.2		
351.0	AMPHIPODA H	0.2	0.2						
351.0	ANACHIS AVARA *					0.2	0.2		
351.0	ANACHIS FLORIDANA	0.2	0.2						
351.0	ARCA SP.	0.2	0.2						
351.0	ARCA ZEBRA							0.2	0.2
351.0	ARCOPSIS ADAMSI	0.2	0.2						
351.0	ASTERIAS FORBESII			0.2	0.2				
351.0	ASTHENOTHAERUS HEMPHILLI					0.2	0.2		
351.0	AUTOMATE EVERMANNI							0.2	0.2
351.0	AXIOGNATHUS SQUAMATUS	0.2	0.2						
351.0	BRANCHIOSYLLIS OCULATA	0.2	0.2						
351.0	BRANIA CLAVATA	0.2	0.2						
351.0	CALOTROPHON OSTREARUM			0.2	0.2				
351.0	CANTHARUS MULTANGULUS	0.2	0.2						
351.0	CERADOCUS SP. B					0.2	0.2		
351.0	CERAPUS TUBULARIS							0.2	0.2
351.0	CERATONEREIS VERSIPEDATA			0.2	0.2				
351.0	CERODRILLIA CERVINA					0.2	0.2		
351.0	CHRYSOPETALIDAE C	0.2	0.2						
351.0	CHRYSOPETALIDAE D			0.2	0.2				
351.0	CIROLANA PARVA							0.2	0.2
351.0	CIRRIFORMIA FILIGERA							0.2	0.2
351.0	CONUS JASPIDEUS STEARNSI	0.2	0.2						
351.0	COOPERELLA ATLANTICA	0.2	0.2						
351.0	COROPHIIDAE	0.2	0.2						
351.0	COROPHIUM SP.							0.2	0.2
351.0	CREPIDULA SP.								
351.0	CRYOTURRIS ELATA	0.2	0.2			0.2	0.2		
351.0	DELECTOPECTEN SP. A			0.2	0.2				
351.0	DENDROCHIROTIDA	0.2	0.2						
351.0	DENDRODORIS SP. A	0.2	0.2						
351.0	DIASTYLIDAE							0.2	0.2
351.0	DIODORA LISTERI							0.2	0.2
351.0	DONDICE OCCIDENTALIS	0.2	0.2						
351.0	DORIOPSILLA ALBOPUNCTATA	0.2	0.2						
351.0	EBALIA CARIOSA							0.2	0.2
351.0	EUNICE WEBSTERI							0.2	0.2
351.0	EUNICIDAE	0.2	0.2						
351.0	EUPHROSINE TRILOBA							0.2	0.2
351.0	EURYDICE LITTORALIS			0.2	0.2				
351.0	EXOGONE SP.					0.2	0.2		
351.0	GASTROPTERON RUBRUM	0.2	0.2						
351.0	GLYCERA TESSELATA			0.2	0.2				
351.0	GONEPLAX SIGSBEI					0.2	0.2		
351.0	HETEROMYSIS FORMOSA							0.2	0.2
351.0	HIPPOLYTIDAE			0.2	0.2				
351.0	JAEROPSIS CORALICOLA	0.2	0.2						
351.0	KURTZIELLA ATROSTYLA			0.2	0.2				

Appendix 3. (Continued)

STATION IS01

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
351.0	KURTZIELLA LIMONITELLA					0.2	0.2		
351.0	LAEVICARDIUM SP.			0.2	0.2				
351.0	LAMELLARIA PERSPICUA	0.2	0.2					0.2	0.2
351.0	LATREUTES FUCORUM *			0.2	0.2				
351.0	LEMBOS SP.					0.2	0.2		
351.0	LEPTOCHELA SP.			0.2	0.2				
351.0	LILJEBORGIA SP. B					0.2	0.2		
351.0	LINGA AMIANTUS					0.2	0.2		
351.0	LUMBRINERIS SP.							0.2	0.2
351.0	LYSIDICE NINETTA							0.2	0.2
351.0	MACROCOELOMA SP.							0.2	0.2
351.0	MACROCOELOMA CAMPTOCERUM	0.2	0.2						
351.0	MARGINELLA LAVALLEEANA			0.2	0.2				
351.0	MARGINELLA SP.					0.2	0.2		
351.0	MARPHYSA SP. B			0.2	0.2				
351.0	MEGALOMMA SP.	0.2	0.2						
351.0	MESOCHAETOPTERUS SP.			0.2	0.2				
351.0	MICROPHRYS SP.			0.2	0.2				
351.0	MICROPHRYS SP. *							0.2	0.2
351.0	MITHRAX ACUTICORNIS					0.2	0.2		
351.0	MITHRAX SP. *	0.2	0.2						
351.0	MUNIDA SP.					0.2	0.2		
351.0	MUREX RECURVIROSTRIS RUBIDUS					0.2	0.2		
351.0	MYSIDACEA			0.2	0.2				
351.0	MYSIDOPSIS FURCA							0.2	0.2
351.0	NASSARIUS ALBUS			0.2	0.2				
351.0	NASSARIUS VIBEX					0.2	0.2		
351.0	NEMERTINEA C	0.2	0.2						
351.0	NEMERTINEA E			0.2	0.2				
351.0	NEODRILLIA CYDIA	0.2	0.2						
351.0	NEPHTYIDAE			0.2	0.2				
351.0	NEPHTYS SQUAMOSA							0.2	0.2
351.0	NEREIS SUCCINEA							0.2	0.2
351.0	NUCULA PROXIMA					0.2	0.2		
351.0	NYMPHOPSIS DUODORSOSPINOSA					0.2	0.2		
351.0	OCTOPUS SP.							0.2	0.2
351.0	ODONTOSYLLIS SP.							0.2	0.2
351.0	ODONTOSYLLIS ENOPLA			0.2	0.2				
351.0	OLIVA SP.					0.2	0.2		
351.0	OLIVELLA BULLULA					0.2	0.2		
351.0	ONUPHIDAE	0.2	0.2						
351.0	ONUPHIS SP.	0.2	0.2						
351.0	OPHIOCNIDA SCABRIUSCULA							0.2	0.2
351.0	OPHIOLEPIS ELEGANS							0.2	0.2
351.0	OXYUROSTYLIS SMITHI							0.2	0.2
351.0	PENAEOIDEA							0.2	0.2
351.0	PERICLIMENAEUS SP. A	0.2	0.2					0.2	0.2
351.0	PHERUSA SP.							0.2	0.2
351.0	PHTISICA MARINA							0.2	0.2
351.0	PHYLLODOCE FRAGILIS	0.2	0.2						
351.0	PHYLLODOCE LONGIPES			0.2	0.2				
351.0	PHYLLODOCIDAE	0.2	0.2						
351.0	PILUMNUS DASYPODUS			0.2	0.2				
351.0	PILUMNUS FLORIDANUS			0.2	0.2				
351.0	PILUMNUS PANNOSUS								

Appendix 3. (Continued)

STATION IS01

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
351.0	PINNIXA CYLINDRICA			0.2	0.2				
351.0	PINNOTHERES SP.					0.2	0.2		
351.0	PIONOSYLLIS SP. A	0.2	0.2						
351.0	PISANIA TINCTA			0.2	0.2				
351.0	PLICATULA GIBBOSA	0.2	0.2						
351.0	PODOCHELA SP.							0.2	0.2
351.0	POLINICES SP.			0.2	0.2				
351.0	PORCELLANIDAE	0.2	0.2						
351.0	PORTUNIDAE							0.2	0.2
351.0	PROCERAEA FASCIATA	0.2	0.2						
351.0	PROCESSA HEMPHILLI					0.2	0.2	0.2	0.2
351.0	PROCESSA VICINA								
351.0	PROTULA TUBULARIA	0.2	0.2						
351.0	PSEUDOVERMILIA OCCIDENTALIS					0.2	0.2		
351.0	PTERIA COLYMBUS			0.2	0.2				
351.0	SABELLARIA GRACILLIS	0.2	0.2						
351.0	SABELLARIA VULGARIS VULGARIS	0.2	0.2						
351.0	SABELLARIIDAE					0.2	0.2		
351.0	SCALIBREGMIDAE			0.2	0.2				
351.0	SCOLOPLOS SP. A					0.2	0.2		
351.0	SEILA ADAMSI	0.2	0.2						
351.0	SEMELE BELLASTRIATA							0.2	0.2
351.0	SEMELE PURPURASCENS					0.2	0.2		
351.0	SERPULIDAE A							0.2	0.2
351.0	SICYONIA LAEVIGATA					0.2	0.2		
351.0	SIPUNCULIDA C			0.2	0.2				
351.0	SIRAIUS BICOLOR	0.2	0.2						
351.0	SPELOEOPHORUS ELEVATUS							0.2	0.2
351.0	STENOTHOIDAE			0.2	0.2				
351.0	STENOTHOIDAE A	0.2	0.2						
351.0	SYLLIDAE H	0.2	0.2						
351.0	TELLINA AEQUISTRIATA	0.2	0.2						
351.0	TELLINA SP.	0.2	0.2						
351.0	THARYX MARIONI							0.2	0.2
351.0	THYONE PSEUDOFUSUS							0.2	0.2
351.0	TOZEUMA SP.					0.2	0.2		
351.0	TRITONIA BAYERI	0.2	0.2						
351.0	TURBONILLA ABRUPTA			0.2	0.2				
351.0	TURBONILLA INTERRUPTA			0.2	0.2				
351.0	WILLIAMIA KREBSII					0.2	0.2		
351.0	XANTHIDAE *			0.2	0.2				

Appendix 3. (Continued)

STATION IS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
1.0	LUCONACIA INCERTA	68.0	19.5	2.0	0.4	0.2	0.2	0.4	0.4
2.0	ELASMOPUS SP. A	14.0	4.5	13.8	7.2	12.2	4.7	5.0	2.2
3.0	ERICHTHONIUS BRASILIENSIS	27.0	11.3	16.8	7.1	.	.	0.4	0.4
4.0	LEMBOS SMITHI	15.2	7.8	6.8	2.9	8.6	5.6	5.2	2.6
5.0	CAPRELLA EQUILIBRA	29.8	9.3	3.2	0.9	.	.	.	.
6.0	PODOCERUS SP.	26.4	7.8	4.0	1.3	0.8	0.6	0.8	0.4
7.0	PHOTIS SP.	20.4	5.0	10.8	4.9	.	.	0.4	0.2
8.0	LEPTOCHELIA SP.	17.2	7.3	7.8	4.6	0.4	0.4	.	.
9.0	LUMBRINERIS INFLATA	8.0	3.6	8.6	3.4	3.0	1.0	2.2	0.9
10.0	POLYCIRRUS CAROLINENSIS	5.6	1.7	8.4	4.2	1.8	0.6	1.0	0.5
11.0	EXOGONE DISPAR	6.6	2.6	6.0	3.9	1.2	0.6	2.8	1.4
12.0	GAMMAROPSIS SP.	0.2	0.2	16.0	10.0	.	.	.	.
13.0	SPIO SP. A	4.4	4.4	11.0	10.8	.	.	.	.
14.5	AMPITHOE SP. A	3.2	1.1	6.2	3.4	2.2	1.3	2.4	1.1
14.5	MEGALOBRACHIUM SORIATUM	7.2	2.1	2.0	0.9	4.4	2.5	0.4	0.2
16.0	PSEUDOMEDAEUS AGASSIZII	4.2	1.7	1.6	0.9	7.0	4.5	0.8	0.6
17.0	CARPIAS BERMUDENSIS	0.6	0.4	9.2	5.3	2.4	1.3	1.2	0.4
18.0	ARCA IMBRICATA	2.6	1.0	4.2	1.3	5.8	2.1	0.6	0.6
19.0	SYLLIS GRACILIS	6.4	1.6	1.8	0.7	3.2	1.3	0.8	0.5
20.0	MICRODEUTOPUS MYERSI	10.0	1.9	0.4	0.4	.	.	1.4	0.5
21.0	OXYUROSTYLIS SMITHI	0.2	0.2	1.6	1.0	.	.	9.6	0.7
22.0	MAERA SP. A	4.0	1.9	4.4	1.3	2.0	1.8	0.6	0.2
24.0	PILUMNUS SP.	4.2	1.3	3.0	1.3	2.0	1.1	1.6	0.7
24.0	SIPUNCULIDA A	4.8	1.5	2.8	1.8	3.0	1.1	0.2	0.2
24.0	SYLLIS HYALINA	3.0	0.5	2.2	1.0	2.4	0.6	3.2	1.1
26.0	OPHIACTIS SAVIGNYI	6.2	1.5	2.4	0.7	.	.	1.6	1.0
27.5	ASPIDOSIPHON GOSNOLDI	1.4	0.7	5.8	2.0	2.4	0.9	.	.
27.5	OPHIOTHRIX ANGULATA	4.4	1.4	3.8	1.3	0.8	0.5	0.6	0.4
29.0	MALACOCEROS GLUTAEUS	0.2	0.2	0.4	0.2	1.8	0.9	7.0	2.5
30.5	NEMATODA	6.2	4.7	2.4	1.0	0.2	0.2	0.2	0.2
30.5	PODARKE OBSCURA	0.4	0.2	4.8	1.7	3.4	0.9	0.4	0.4
32.0	CHAMA CONGREGATA	3.2	1.2	1.6	0.7	3.2	1.4	0.4	0.4
33.0	SYNALPHEUS TOWNSENDI	1.4	1.2	0.6	0.4	4.0	1.9	2.0	1.0
34.5	ASTERIAS FORBESII	.	.	7.8	1.3	.	.	.	.
34.5	SYLLIS SPONGICOLA	1.4	1.2	1.2	0.7	3.6	2.4	1.6	1.0
36.5	APSEUDES SP. A	2.8	1.2	3.4	1.9	1.2	0.5	0.2	0.2
36.5	CREPIDULA ACULEATA	3.4	1.9	1.6	1.1	2.6	1.0	.	.
38.0	AMPELISCA SCHELLENBERGI	3.8	1.1	1.4	1.0	1.8	0.8	0.4	0.4
39.0	EULALIA SANGUINEA	1.6	0.6	2.0	0.7	1.6	0.7	1.0	0.6
40.0	PARACERCEIS CAUDATA	1.8	0.6	0.4	0.2	0.8	0.4	3.0	2.5
42.0	MELITA APPENDICULATA	.	.	4.0	3.3	1.2	0.7	0.4	0.4
42.0	PISTA QUADRILOBATA	1.0	0.6	2.8	1.4	1.4	0.7	0.4	0.2
42.0	XANTHIDAE A	0.8	0.6	1.2	1.2	3.2	1.5	0.4	0.2
44.5	ARMANDIA MACULATA	5.4	3.9	.	.	.	.	.	.
44.5	TURBONILLA INTERRUPTA	3.2	2.9	1.2	0.6	1.0	1.0	.	.
46.5	AMPHARETE AMERICANA	4.0	1.0	1.2	1.0	.	.	.	.
46.5	JASSA FALCATA	5.2	2.3	.	.	.	.	.	.
48.0	PRIONOSPIO CIRRIFERA	4.0	1.6	0.4	0.4	0.4	0.4	0.2	0.2
50.5	AXIOGNATHUS SQUAMATUS	1.2	0.7	3.0	2.5	.	.	0.4	0.4
50.5	GOULDIA CERINA	0.8	0.8	0.8	0.5	3.0	2.0	.	.
50.5	LEMBOS UNICORNIS	1.2	1.2	2.2	1.5	1.0	0.4	0.2	0.2
50.5	TURBONILLA INCISA	4.6	4.3	.	.	.	.	.	.
53.0	CHRYSOPETALIDAE A	0.4	0.2	2.6	1.7	0.8	0.6	0.4	0.4
54.5	AMPHIODIA PULCHELLA	.	.	2.8	2.8	.	.	1.2	0.4
54.5	LYSIANOPSIS ALBA	0.8	0.4	0.8	0.4	1.6	0.7	0.8	0.6

Appendix 3. (Continued)

STATION IS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
57.0	ANOPLODACTYLUS PETIOLATUS	1.8	0.7	1.8	0.9	.	.	.	.
57.0	MITRELLA LUNATA	3.0	1.7	0.6	0.4	.	.	.	.
57.0	PHERUSA EHLERSI	1.4	0.5	1.0	0.8	0.8	0.5	0.4	0.4
60.5	BRACHYURA	2.8	1.8	0.4	0.4	0.2	0.2	.	.
60.5	ERICHTHONIUS SP. A	0.2	0.2	1.2	1.0	2.0	2.0	.	.
60.5	LEUCOTHOE SPINICARPA	0.2	0.2	.	.	2.4	1.5	0.8	0.6
60.5	SYNALPHEUS SP.	0.2	0.2	.	.	3.2	1.6	.	.
64.0	MEGALOMMA BIOCULATUM	0.4	0.2	1.6	0.7	0.6	0.4	0.6	0.4
64.0	PILUMNUS FLORIDANUS	2.6	1.1	0.4	0.2	.	.	0.2	0.2
64.0	SYLLIS SP. B	.	.	0.8	0.4	.	.	2.4	1.0
67.0	AMPHIPODA E	0.4	0.4	2.0	1.3	0.6	0.6	.	.
67.0	FILOGRANA IMPLEXA	0.4	0.4	0.2	0.2	.	.	2.4	2.4
67.0	SERPULIDAE	0.2	0.2	2.2	1.3	0.4	0.2	0.2	0.2
69.5	APANTHURA MAGNIFICA	1.2	0.8	0.8	0.6	0.8	0.8	.	.
69.5	PHYLLODOCE CASTANEA	0.2	0.2	1.2	0.4	1.4	0.7	.	.
72.5	AMPELISCA SP. C	.	.	.	.	1.2	1.2	1.4	0.7
72.5	LYSIANASSA SP.	0.8	0.8	1.6	0.9	0.2	0.2	.	.
72.5	PHERUSA INFLATA	0.4	0.2	1.0	0.6	1.0	0.4	0.2	0.2
72.5	SYLLIS ALTERNATA	1.2	1.0	.	.	0.6	0.6	0.8	0.6
78.5	CERATONEREIS MIRABILIS	.	.	.	.	1.2	0.6	1.2	0.6
78.5	JAEROPSIS CORALICOLA	.	.	1.6	1.0	0.8	0.8	.	.
78.5	LATREUTES PARVULUS	0.2	0.2	1.6	0.9	0.2	0.2	0.4	0.2
78.5	MEGALUROPUS SP.	.	.	0.2	0.2	.	.	2.2	1.0
78.5	NEMERTINEA	0.8	0.4	0.6	0.4	.	.	1.0	0.5
78.5	PAGURUS SP.	1.4	1.0	0.2	0.2	0.4	0.4	0.4	0.2
78.5	POLYDORA TETRABRANCHIA	.	.	2.2	1.6	0.2	0.2	.	.
78.5	WEBSTERINEREIS TRIDENTATA	0.2	0.2	1.0	0.4	1.0	0.4	0.2	0.2
85.0	ALPHEUS NORMANNI	0.6	0.4	0.6	0.6	0.2	0.2	0.8	0.4
85.0	CAPRELLA PENANTIS	1.0	0.5	1.2	0.6	.	.	.	.
85.0	GONIADIDES CAROLINAE	.	.	0.8	0.8	0.4	0.4	1.0	0.8
85.0	PILUMNUS DASYPODUS	2.0	0.9	0.2	0.2	.	.	.	.
85.0	THARYX MARIONI	2.2	2.2	.	.	.	.	.	.
90.5	BRANCHIOSYLLIS EXILIS	0.6	0.4	0.2	0.2	0.4	0.2	0.8	0.4
90.5	DIPLODONTA PUNCTATA	1.4	0.7	0.6	0.4	.	.	.	.
90.5	GAMMARUS SP.	.	.	2.0	1.8	.	.	.	.
90.5	LOIMIA MEDUSA	0.4	0.4	0.8	0.6	.	.	0.8	0.4
90.5	PAGURUS CAROLINENSIS	.	.	0.6	0.4	1.4	1.2	.	.
90.5	PRIONOSPIO CRISTATA	0.6	0.4	0.6	0.4	0.2	0.2	0.6	0.4
98.5	AXIOTHELLA MUCOSA	.	.	0.2	0.2	0.8	0.8	0.8	0.5
98.5	CERADOCUS SP.	0.2	0.2	.	.	1.4	1.4	0.2	0.2
98.5	HETEROMYSIS FORMOSA	.	.	1.8	1.3	.	.	.	.
98.5	HEXAPANOPEUS SP. *	1.8	1.8	.	.	.	.	.	.
98.5	MAERA CAROLINIANA	.	.	0.8	0.8	0.4	0.4	0.6	0.4
98.5	PELIA MUTICA	0.4	0.2	1.4	0.9	.	.	.	.
98.5	PISANIA TINCTA	0.4	0.2	1.2	0.7	0.2	0.2	.	.
98.5	PSEUDOVERMILIA OCCIDENTALIS	.	.	1.0	0.5	0.8	0.6	.	.
98.5	THOR SP.	0.4	0.2	0.4	0.2	0.4	0.2	0.6	0.4
98.5	TURBELLARIA	0.6	0.4	0.6	0.4	0.4	0.2	0.2	0.2
106.0	AUTOLYTUS SP.	0.6	0.2	0.4	0.4	0.4	0.2	0.2	0.2
106.0	CRASSISPIRA ALBOMACULATA	0.2	0.2	0.2	0.2	1.2	1.0	.	.
106.0	DASYBRANCHUS SP.	1.2	0.5	0.2	0.2	.	.	0.2	0.2
106.0	SICYONIA LAEVIGATA	0.8	0.6	.	.	0.4	0.4	0.4	0.4
106.0	SPIOPHANES BOMBYX	0.4	0.2	0.2	0.2	0.2	0.2	0.8	0.4
113.5	BRANCHIOSYLLIS OCULATA	0.2	0.2	.	.	.	.	1.2	0.5
113.5	INACHOIDES FORCEPS	0.4	0.2	0.4	0.2	0.4	0.4	0.2	0.2

Appendix 3. (Continued)

STATION IS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
113.5	MARGINELLA LAVALLEEANA	0.4	0.2	0.2	0.2	0.8	0.5	•	•
113.5	PHYLLODOCE FRAGILIS	0.6	0.4	•	•	•	•	0.8	0.4
113.5	PISTA PALMATA	0.8	0.8	0.4	0.4	•	•	0.2	0.2
113.5	POLYCHERIA SP.	1.4	1.2	•	•	•	•	•	•
113.5	POLYCIRRUS EXIMIUS	0.8	0.6	•	•	0.4	0.2	0.2	0.2
113.5	POLYDORA CAECA	0.4	0.2	0.8	0.6	0.2	0.2	•	•
113.5	SABELLARIA VULGARIS BEAUFORTENSIS	0.4	0.4	0.8	0.4	•	•	0.2	0.2
113.5	SYLLIS REGULATA CAROLINAE	•	•	•	•	•	•	1.4	0.4
127.5	AMPELISCA VADORUM	1.0	0.4	•	•	•	•	0.2	0.2
127.5	ARABELLA MUTANS	•	•	0.6	0.4	0.4	0.4	0.2	0.2
127.5	CHAMA MACEROPHYLLA	1.0	0.6	•	•	0.2	0.2	•	•
127.5	DIODORA CAYENENSIS	•	•	0.4	0.4	0.6	0.2	0.2	0.2
127.5	DODECACERIA CORALLII	0.8	0.6	0.4	0.2	•	•	•	•
127.5	EUNICE FILAMENTOSA	0.4	0.4	0.4	0.4	0.4	0.4	•	•
127.5	HYDROIDES SP. B	0.2	0.2	0.6	0.6	0.2	0.2	0.2	0.2
127.5	LITHOPHAGA BISULCATA	0.4	0.2	0.6	0.4	0.2	0.2	•	•
127.5	MARPHYSA SP. A	1.0	0.8	•	•	0.2	0.2	•	•
127.5	OWENIA FUSIFORMIS	0.2	0.2	0.6	0.4	0.4	0.2	•	•
127.5	PAGURISTES TORTUGAE	0.6	0.2	0.4	0.2	•	•	0.2	0.2
127.5	PAGURUS HENDERSONI	•	•	0.2	0.2	0.2	0.2	0.8	0.8
127.5	PILUMNUS PANNOSUS	•	•	•	•	0.6	0.4	0.6	0.4
127.5	PSEUDOVERMILIA SP. A	0.6	0.2	0.2	0.2	0.4	0.4	•	•
127.5	SPIO PETTIBONEAE	•	•	0.2	0.2	•	•	1.0	1.0
127.5	SPIONIDAE	0.2	0.2	1.0	0.8	•	•	•	•
127.5	TELLINA AMERICANA	0.2	0.2	•	•	0.2	0.2	0.8	0.8
127.5	TRYPANOSYLLIS ZEBRA	0.6	0.4	•	•	•	•	0.6	0.4
143.0	AMPHARETE ACUTIFRONS	0.2	0.2	0.8	0.6	•	•	•	•
143.0	HOLOTHUROIDEA	0.2	0.2	0.8	0.8	•	•	•	•
143.0	LUCIFER FAXONI	•	•	0.8	0.8	0.2	0.2	•	•
143.0	LUMBRINERIS COCCINEA	•	•	0.4	0.4	0.4	0.4	0.2	0.2
143.0	MEDIOMASTUS CALIFORNIENSIS	0.6	0.6	0.4	0.2	•	•	•	•
143.0	MELPHIDIPPIDAE A	•	•	0.2	0.2	0.8	0.8	•	•
143.0	NYMPHONIDAE A	0.8	0.8	•	•	•	•	0.2	0.2
143.0	PAGURISTES SP.	0.2	0.2	0.8	0.6	•	•	•	•
143.0	RILDARDANUS LAMINOSA	0.6	0.2	0.2	0.2	0.2	0.2	•	•
143.0	SUTUROGLYPTA IONTHA	0.2	0.2	0.8	0.8	•	•	•	•
143.0	THYONE PSEUDOFUSUS	0.2	0.2	0.4	0.4	0.4	0.2	•	•
143.0	VERMICULARIA KNORRII	0.2	0.2	•	•	0.8	0.4	•	•
143.0	XANTHIDAE	•	•	0.6	0.4	0.4	0.4	•	•
158.0	ANOPLODACTYLUS INSIGNIS	0.8	0.5	•	•	•	•	•	•
158.0	ARBACIA PUNCTULATA	0.6	0.2	•	•	0.2	0.2	•	•
158.0	CHIONE GRUS	0.2	0.2	•	•	0.4	0.2	0.2	0.2
158.0	CHRYSOPETALIDAE B	0.2	0.2	0.2	0.2	•	•	0.4	0.4
158.0	CUMINGIA TELLINOIDES	•	•	0.2	0.2	0.6	0.2	•	•
158.0	ENGINA TURBINELLA	0.2	0.2	•	•	0.6	0.6	•	•
158.0	EUNICE VITTATA	•	•	0.2	0.2	0.4	0.4	0.2	0.2
158.0	GLYCERA PAPILLOSA	•	•	•	•	0.6	0.4	0.2	0.2
158.0	GNATHIA SP. A	0.4	0.2	0.2	0.2	0.2	0.2	•	•
158.0	MALDANIDAE	•	•	•	•	0.6	0.4	0.2	0.2
158.0	PILUMNUS SAYI	•	•	0.6	0.4	•	•	0.2	0.2
158.0	PROCESSA SP.	•	•	0.6	0.6	•	•	0.2	0.2
158.0	SABELLARIA FLORIDENSIS	0.4	0.2	0.4	0.4	•	•	•	•
158.0	SABELLARIA VULGARIS	0.6	0.4	•	•	•	•	0.2	0.2
158.0	SABELLARIA VULGARIS VULGARIS	0.6	0.4	0.2	0.2	•	•	•	•
158.0	SEBA SP.	•	•	0.8	0.6	•	•	•	•

Appendix 3. (Continued)

STATION IS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
158.0	XANTHIDAE D	•	•	•	•	0.8	0.8	•	•
183.5	ANCHIALINA TYPICA	•	•	•	•	0.6	0.4	•	•
183.5	ANOPLODACTYLUS LENTUS	0.2	0.2	•	•	0.4	0.4	•	•
183.5	BRANIA CLAVATA	•	•	0.4	0.4	0.2	0.2	•	•
183.5	CAPRELLIDAE A	0.4	0.4	•	•	0.2	0.2	•	•
183.5	CARINOBATEA CARINATA	0.6	0.4	•	•	•	•	•	•
183.5	CERAPUS TUBULARIS	•	•	0.6	0.4	•	•	•	•
183.5	CERITHIOPSIS EMERSONI	0.6	0.6	•	•	•	•	•	•
183.5	CERITHIOPSIS GREENI	•	•	•	•	0.6	0.6	•	•
183.5	CERITHIUM ATRATUM	•	•	0.6	0.6	•	•	•	•
183.5	COLOMASTIX SP.	•	•	0.2	0.2	0.4	0.4	•	•
183.5	COROPHIIDAE	0.6	0.6	•	•	•	•	•	•
183.5	ERATO MAUGERIAE	0.2	0.2	•	•	0.4	0.4	•	•
183.5	EUNICE ANTENNATA	0.2	0.2	•	•	0.2	0.2	0.2	0.2
183.5	FAVARTIA CELLULOSA	•	•	0.2	0.2	0.4	0.4	•	•
183.5	GITANOPSIS SP.	•	•	0.6	0.2	•	•	•	•
183.5	GLYCERA TESSELATA	•	•	0.2	0.2	0.2	0.2	0.2	0.2
183.5	HIPPOLYTIDAE	0.2	0.2	•	•	0.2	0.2	0.2	0.2
183.5	HYBOSCOLEX LONGISETA	•	•	0.4	0.2	0.2	0.2	•	•
183.5	LAEVICARDIUM PICTUM	•	•	0.4	0.4	0.2	0.2	•	•
183.5	LEMBOS SP.	•	•	0.4	0.2	•	•	0.2	0.2
183.5	LUMBRINERIS LATREILLI	•	•	•	•	•	•	0.6	0.4
183.5	MICROPANOPE SP.	0.2	0.2	0.2	0.2	0.2	0.2	•	•
183.5	NEMERTINEA E	•	•	0.6	0.4	•	•	•	•
183.5	OPHIOSTIGMA SP. A	0.6	0.4	•	•	•	•	•	•
183.5	PAGURIDAE	0.6	0.6	•	•	•	•	•	•
183.5	PAGURIDEA	•	•	0.4	0.4	0.2	0.2	•	•
183.5	PHYLLOCHAETOPTERUS SOCIALIS	•	•	0.2	0.2	0.4	0.2	•	•
183.5	PHYLLODOCE LONGIPES	•	•	•	•	0.4	0.2	0.2	0.2
183.5	PILUMNUS SP. *	•	•	0.6	0.6	•	•	•	•
183.5	POLYDORA WEBSTERI	•	•	•	•	0.6	0.6	•	•
183.5	RUDILEMBUIDES NAGLEI	•	•	0.6	0.4	•	•	•	•
183.5	SIPUNCULIDA C	0.2	0.2	0.4	0.4	•	•	•	•
183.5	SYLLIDAE	•	•	•	•	0.4	0.4	0.2	0.2
183.5	TIMARETE SP.	0.6	0.4	•	•	•	•	•	•
220.5	ACCALATHURA CRENULATA	•	•	•	•	•	•	0.4	0.2
220.5	AMPHILOCHUS SP.	•	•	•	•	0.4	0.4	•	•
220.5	AMPHINOMIDAE B	•	•	•	•	•	•	0.4	0.4
220.5	ANCISTROSYLLIS RIGIDA	•	•	•	•	0.2	0.2	0.2	0.2
220.5	BOWMANIELLA PORTORICENSIS	•	•	0.2	0.2	•	•	0.2	0.2
220.5	CAPITELLA CAPITATA	•	•	0.4	0.2	•	•	•	•
220.5	CARIDEA	•	•	0.4	0.2	•	•	•	•
220.5	CERATONEREIS SP.	•	•	0.2	0.2	0.2	0.2	•	•
220.5	CHAETOPLEURA APICULATA	•	•	•	•	•	•	0.4	0.4
220.5	CHONE AMERICANA	•	•	0.4	0.2	•	•	•	•
220.5	CRASSINELLA LUNULATA	•	•	0.2	0.2	0.2	0.2	•	•
220.5	DENDROCHIROTIDA	•	•	0.4	0.4	•	•	•	•
220.5	DIODORA CAYENENSIS *	0.4	0.4	•	•	•	•	•	•
220.5	EBALIA SP.	•	•	0.2	0.2	0.2	0.2	•	•
220.5	EUNICE SP.	•	•	0.4	0.4	•	•	•	•
220.5	EURYDICE LITTORALIS	0.2	0.2	•	•	•	•	0.2	0.2
220.5	HARMOTHOE SP. A	0.2	0.2	0.2	0.2	•	•	•	•
220.5	HIPPOLYTE NICHOLSONI *	•	•	•	•	•	•	0.4	0.4
220.5	HYPOCONCHA SABULOSA	•	•	0.2	0.2	0.2	0.2	•	•
220.5	MELITIDAE	0.2	0.2	0.2	0.2	•	•	•	•

Appendix 3. (Continued)

STATION IS02

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
220.5	METOPORHAPHIS CALCARATA			0.4	0.4				
220.5	MICROPHRYS SP.					0.4	0.2		
220.5	NASSARIUS ALBUS			0.2	0.2			0.2	0.2
220.5	NEMERTINEA C					0.4	0.4		
220.5	NYMPHONIDAE			0.4	0.4				
220.5	OLIGOCHAETA	0.2	0.2					0.2	0.2
220.5	PARAPHOXUS SPINOSUS	0.4	0.2						
220.5	PERICLIMENES SP.					0.4	0.2		
220.5	PHYLLODOCE SP.			0.2	0.2	0.2	0.2		
220.5	PINNIXA SP.			0.4	0.2				
220.5	PORTUNUS SP.			0.4	0.4				
220.5	RUPELLARIA TYPICA			0.4	0.2				
220.5	SABELLIDAE							0.4	0.2
220.5	SEILA ADAMSI			0.2	0.2	0.2	0.2		
220.5	SICYONIA SP.	0.2	0.2					0.2	0.2
220.5	STENOCIONOPS FURCATA COELATA *	0.4	0.4						
220.5	SYLLIS FERRUGINA					0.2	0.2	0.2	0.2
220.5	TIRON TROPAKIS							0.4	0.2
220.5	TRICHOBRANCHUS GLACIALIS							0.4	0.2
220.5	XANTHIDAE B			0.2	0.2			0.2	0.2
295.0	ACANTHOHAUSTORIUS BOUSFIELDI							0.2	0.2
295.0	AEOLIDIACEA A							0.2	0.2
295.0	AMPITHOE SP.			0.2	0.2				
295.0	ANACHIS LAFRESNAYI					0.2	0.2		
295.0	ARABELLA IRICOLOR			0.2	0.2				
295.0	AUSTRAEOLIS CATINA					0.2	0.2		
295.0	BARBATIA CANDIDA							0.2	0.2
295.0	BATRACHONOTUS FRAGOSUS	0.2	0.2						
295.0	CANTHARUS MULTANGULUS			0.2	0.2				
295.0	CAPITELLIDAE D	0.2	0.2						
295.0	CAULLERIELLA KILLARIENSIS	0.2	0.2						
295.0	CERATONEREIS VERSIPEDATA							0.2	0.2
295.0	CHEVALIA SP.			0.2	0.2				
295.0	CHRYSOPETALIDAE							0.2	0.2
295.0	CLYPEASTER SP.							0.2	0.2
295.0	CRASSOSTREA VIRGINICA	0.2	0.2						
295.0	DONDICE OCCIDENTALIS	0.2	0.2						
295.0	DORVILLEA SOCIABILIS					0.2	0.2		
295.0	DROMIDIA ANTILLENSIS					0.2	0.2		
295.0	ECHINASTER SP.			0.2	0.2				
295.0	EPITONIUM HUMPHREYSI					0.2	0.2		
295.0	ERICHSONELLA FILIFORMIS			0.2	0.2				
295.0	EUNICE TENUIS							0.2	0.2
295.0	GLYCERIDAE					0.2	0.2		
295.0	GONODACTYLUS BREDINI					0.2	0.2		
295.0	HEMIPODUS ROSEUS							0.2	0.2
295.0	HESIONIDAE					0.2	0.2		
295.0	HETEROCRYPTA GRANULATA					0.2	0.2		
295.0	HIATELLA ARCTICA	0.2	0.2						
295.0	HOLOTHURIA DAKARENSIS							0.2	0.2
295.0	HYDROIDES SP. A							0.2	0.2
295.0	HYPSICOMUS PHAEOTAENIA							0.2	0.2
295.0	ISCHNOCHITONIDAE A								
295.0	LAMELLARIA PERSPICUA	0.2	0.2			0.2	0.2		
295.0	LEPTOCHELA SP.								

Appendix 3. (Continued)

STATION IS02

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
295.0	LINGA AMIANTUS	0.2	0.2						
295.0	LUIDIA ALTERNATA			0.2	0.2				
295.0	LUMBRINERIDAE	0.2	0.2						
295.0	LUMBRINERIS IMPATIENS	0.2	0.2						
295.0	LYONSIA SP.								
295.0	LYSMATA INTERMEDIA					0.2	0.2		
295.0	LYSMATA SP.					0.2	0.2		
295.0	MACROCOELOMA TRISPINOSUM					0.2	0.2		
295.0	MAJIDAE A			0.2	0.2				
295.0	MESANTHURA DECORATA	0.2	0.2					0.2	0.2
295.0	MITHRAX FORCEPS			0.2	0.2				
295.0	MITHRAX PLEURACANTHUS					0.2	0.2		
295.0	MITRELLA RAVENELI	0.2	0.2						
295.0	MODIOLUS MODIOLUS SQUAMOSUS	0.2	0.2						
295.0	MONOCULODES SP.			0.2	0.2				
295.0	MUREX FLORIFER DILECTUS							0.2	0.2
295.0	MUSCULUS LATERALIS					0.2	0.2		
295.0	NAINERIS SP.	0.2	0.2						
295.0	NEMATONEREIS SP.			0.2	0.2				
295.0	NEREIS ACUMINATA	0.2	0.2						
295.0	NEREIS LAMELLOSA	0.2	0.2						
295.0	NEREIS SP.								
295.0	NEREIS SUCCINEA					0.2	0.2		
295.0	NOTOBRYON WARDI			0.2	0.2				
295.0	NUCULA CRENULATA	0.2	0.2	0.2	0.2				
295.0	ODONTOSYLLIS ENOPLA								
295.0	ONUPHIDAE							0.2	0.2
295.0	OPHIOCNIDA SCABRIUSCULA			0.2	0.2			0.2	0.2
295.0	OPHIUROIDEA								
295.0	ORBINIIDAE					0.2	0.2		
295.0	PALAEMONIDAE					0.2	0.2		
295.0	PALEANOTUS SP. B							0.2	0.2
295.0	PANANTHURA FORMOSA					0.2	0.2		
295.0	PELECYPODA C			0.2	0.2				
295.0	PERICLIMENES IRIDESCENS					0.2	0.2		
295.0	PERICLIMENES SP. *							0.2	0.2
295.0	PETALOPROCTUS SOCIALIS			0.2	0.2				
295.0	PETROLISTHES GALATHINUS							0.2	0.2
295.0	PHYLLODOCE SP. E					0.2	0.2		
295.0	PINNOTHERES OSTREUM	0.2	0.2	0.2	0.2				
295.0	PINNOTHERES SP.			0.2	0.2				
295.0	PINNOTHERIDAE			0.2	0.2				
295.0	PITHO LHERMINIERI								
295.0	PLEUROPLOCA GIGANTEA							0.2	0.2
295.0	PODOCHELA RIISEI	0.2	0.2			0.2	0.2		
295.0	PODOCHELA SP.							0.2	0.2
295.0	PODODESMUS SP.					0.2	0.2		
295.0	POLYCHAETA G							0.2	0.2
295.0	POLYCIRRUS SP. C							0.2	0.2
295.0	POLYDORA COLONIA					0.2	0.2		
295.0	POLYDORA SOCIALIS			0.2	0.2				
295.0	POLYDORA SP.	0.2	0.2						
295.0	POLYNOIDAE			0.2	0.2				
295.0	POLYPLACOPHORA C					0.2	0.2		
295.0	PORTUNIDAE			0.2	0.2				

Appendix 3. (Continued)

STATION IS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
295.0	POTAMILLA RENIFORMIS	.	.	.	.	.	.	0.2	0.2
295.0	PRIONOSPIO SP.	0.2	0.2	.	.	.	.	.	.
295.0	PROCERAEA SP.	.	.	.	.	0.2	0.2	.	.
295.0	PYRGOSPIRA TAMPAENSIS	.	.	.	.	0.2	0.2	.	.
295.0	SCHISTOMERINGOS RUDOLPHI	.	.	0.2	0.2	.	.	.	.
295.0	SICYONIA BREVIROSTRIS	.	.	.	.	.	.	0.2	0.2
295.0	SICYONIA BREVIROSTRIS *	.	.	.	.	.	.	0.2	0.2
295.0	SICYONIIDAE	.	.	.	.	.	.	0.2	0.2
295.0	SPELOEOPHORUS PONTIFER	.	.	.	.	0.2	0.2	.	.
295.0	SPIRORBIS SP.	.	.	.	.	0.2	0.2	.	.
295.0	STENORHYNCHUS SETICORNIS	.	.	0.2	0.2	.	.	.	.
295.0	SYLLIDAE H	0.2	0.2	.	.	.	.	.	.
295.0	TELLINA SYBARITICA	.	.	.	.	0.2	0.2	.	.
295.0	TEREBELLIDAE	0.2	0.2	.	.	.	.	.	.
295.0	THOR MANNINGI *	.	.	.	.	.	.	0.2	0.2
295.0	TRIPHORA NIGROCINCTA	.	.	0.2	0.2	.	.	.	.
295.0	TURBONILLA SP. *	.	.	.	.	0.2	0.2	.	.
295.0	VERMILIOPSIS ANNULATA	.	.	.	.	0.2	0.2	.	.
295.0	VEXILLUM WANDOENSIS	.	.	0.2	0.2	.	.	.	.

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
1.0	FILOGRANA IMPLEXA	53.2	33.2	1084.4	747.0	0.2	0.2	531.6	355.4
2.0	SYLLIS SPONGICOLA	35.4	19.6	17.2	8.0	7.4	5.0	44.6	42.6
3.0	MALACOCEROS GLUTAEUS	19.0	8.1	11.6	10.9	2.4	1.2	36.8	19.3
4.0	CHONE AMERICANA	7.8	2.9	41.2	20.9	1.0	0.8	3.4	1.6
5.0	OPHIOTHRIX ANGULATA	26.4	15.7	11.8	6.8	1.0	0.8	1.4	0.7
6.0	PHOTIS SP.	31.8	13.6	4.2	3.4	.	.	4.4	3.7
7.0	ACANTHOHAUSTORIUS MILLSI	4.2	2.7	20.4	13.5	2.0	1.2	12.4	10.7
8.0	MEGALOBRACHIUM SORIATUM	5.6	4.2	5.8	5.1	7.0	4.8	20.0	10.8
9.0	LUMBRINERIS INFLATA	11.2	6.3	10.0	4.1	3.4	1.7	8.4	3.3
10.0	EXOGONE DISPAR	18.0	9.6	8.4	3.7	0.8	0.4	3.8	1.6
11.0	OWENIA FUSIFORMIS	5.2	2.2	23.0	11.4	0.8	0.4	1.8	0.6
12.0	CHEVALIA SP.	21.4	20.6	4.8	4.8	0.2	0.2	3.8	3.3
13.0	LAEVICARDIUM PICTUM	1.8	1.1	21.6	2.9	2.0	0.8	4.2	2.0
14.0	LUCONACIA INCERTA	17.8	7.7	7.0	5.3	0.8	0.6	3.0	1.5
15.0	BRANCHIOSYLLIS EXILIS	9.4	4.9	8.4	4.1	3.2	2.0	2.8	1.2
16.0	LEMBOS SMITHI	4.4	2.0	7.4	3.2	9.4	5.9	1.0	0.6
17.0	MICRODEUTOPUS MYERSI	12.0	7.3	.	.	0.2	0.2	9.6	4.0
18.0	AMPITHOE SP. A	6.0	2.4	12.4	6.6	0.8	0.6	1.6	1.1
19.0	PAGURUS CAROLINENSIS	4.4	2.5	5.8	2.3	1.2	0.8	7.2	3.1
20.0	GAMMAROPSIS SP.	11.0	5.0	6.4	3.4	.	.	0.8	0.8
21.0	THOR SP.	4.2	3.2	7.4	3.7	2.8	1.9	3.6	2.3
23.0	AMPHIODIA PULCHELLA	2.8	2.5	3.2	1.9	3.2	1.8	7.8	2.3
23.0	OPHIACTIS SAVIGNYI	3.6	1.5	10.6	3.5	1.2	0.8	1.6	1.0
23.0	PAGURUS SP.	9.6	5.7	1.6	0.9	0.4	0.4	5.4	2.5
25.0	LEUCOTHOE SPINICARPA	3.2	1.8	3.8	2.4	7.2	4.5	2.4	1.2
26.0	XANTHIDAE A	.	.	7.2	4.7	1.8	1.3	6.6	4.8
27.0	MITRELLA LUNATA	10.8	4.6	3.2	1.6	.	.	1.4	0.5
28.0	SUTUROGLYPTA IONTHA	7.2	3.0	6.4	2.6	0.2	0.2	1.0	0.6
29.0	NEMERTINEA	7.2	3.1	3.8	1.3	0.2	0.2	2.6	1.3
30.0	SYLLIS HYALINA	4.8	2.7	3.6	2.1	2.0	1.5	2.6	1.4
31.0	PODARKE OBSCURA	2.6	1.2	4.2	2.0	2.2	1.7	3.8	1.4
32.0	POLYCIRRUS CAROLINENSIS	2.4	1.3	7.4	4.0	1.0	0.8	1.8	1.1
33.0	PILUMNUS SP.	2.6	1.4	1.0	0.4	2.4	1.9	6.4	2.6
34.0	AUTOLYTUS SP.	2.6	1.5	3.8	1.6	1.4	0.7	4.0	1.9
35.0	CAPRELLA PENANTIS	3.0	1.5	7.6	6.4	.	.	1.0	1.0
36.0	CAPRELLA EQUILIBRA	2.0	0.7	9.4	8.4	.	.	.	.
37.5	ASPIDOSIPHON GOSNOLDI	3.2	1.4	5.4	2.9	1.0	0.5	1.6	0.6
37.5	WEBSTERINEREIS SP. B	3.2	1.5	3.4	1.3	2.0	0.9	2.6	1.0
39.5	PSEUDOMEDAEUS AGASSIZII	0.4	0.4	6.8	4.9	2.6	1.7	1.0	0.6
39.5	WEBSTERINEREIS TRIDENTATA	3.2	1.1	3.2	1.6	1.2	0.6	3.2	1.5
41.5	HARMOTHOE SP. A	5.2	2.9	4.4	1.9	0.4	0.2	0.6	0.2
41.5	PRIONOSPIO CRISTATA	0.8	0.6	4.4	2.6	1.0	0.3	4.4	1.8
43.5	SPHAERODORIDIUM CLAPAREDII	10.4	9.9	.	.	.	.	.	.
43.5	SYNALPHEUS TOWNSENDI	1.8	1.1	3.6	3.3	2.8	1.7	2.2	1.3
45.0	EUNICE VITTATA	2.2	1.0	2.2	0.7	1.6	1.0	4.2	1.6
46.0	ELASMOPUS SP. A	2.6	1.7	3.8	2.8	0.8	0.4	2.8	2.3
47.0	POLYDORA CAECA	0.4	0.2	0.6	0.4	.	.	8.6	3.6
48.0	EULALIA SANGUINEA	1.6	0.5	5.8	3.4	1.0	0.8	1.0	0.8
49.0	AMPHARETE AMERICANA	2.2	1.1	0.6	0.4	0.8	0.5	5.4	1.5
50.0	HIATELLA ARCTICA	1.2	1.2	6.6	4.9	0.6	0.4	0.2	0.2
51.5	MEGALOMMA BIOCULATUM	1.8	0.8	5.8	3.1	0.2	0.2	0.6	0.4
51.5	PROCERAEA SP.	.	.	5.8	3.2	0.4	0.2	2.2	0.8
53.0	CHIONE GRUS	1.4	0.6	3.0	1.8	1.2	0.7	2.4	0.8
55.0	AXIOGNATHUS SQUAMATUS	2.4	1.2	1.8	1.1	0.6	0.6	3.0	1.3
55.0	SEMELE NUCULOIDES	2.2	0.7	2.6	2.1	1.6	0.9	1.4	0.5

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
55.0	SPIOPHANES BOMBYX	3.0	2.0	2.4	1.3	0.6	0.6	1.8	0.8
57.0	TURBELLARIA	2.4	0.9	0.4	0.4	1.2	0.7	3.6	1.4
58.0	PODOCERUS SP.	2.2	1.5	2.0	1.4	1.2	0.7	2.0	1.3
59.0	ERICHTHONIUS BRASILIENSIS	2.0	1.4	1.6	0.5	0.2	0.2	3.2	1.6
60.0	CERATONEREIS VERSIPEDATA	1.8	1.0	2.4	1.1	0.6	0.4	1.8	1.3
61.0	POLYCIRRUS EXIMIUS	1.8	0.9	2.0	1.4	0.8	0.6	1.8	0.9
63.0	CERITHIUM ATRATUM	1.8	1.6	3.6	2.4	0.6	0.6	0.2	0.2
63.0	MAJIDAE A	.	.	.	.	1.4	1.0	4.8	3.2
63.0	TRAVISIA PARVA	.	.	4.6	4.3	0.2	0.2	1.4	1.4
67.0	DIASTYLIDAE A	2.2	0.8	0.2	0.2	.	.	3.6	0.6
67.0	OPHIOSTIGMA SP. A	5.8	4.0	.	.	.	.	0.2	0.2
67.0	PARACERCEIS CAUDATA	2.8	1.2	2.4	0.8	0.4	0.2	0.4	0.4
67.0	PHERUSA EHLERSI	3.4	2.7	1.8	0.8	0.2	0.2	0.6	0.4
67.0	TELLINA AMERICANA	1.6	1.0	1.2	0.7	1.4	0.5	1.8	1.3
70.5	ELASMOPUS SP. B	0.4	0.4	5.4	5.4	.	.	.	.
70.5	GOULDIA CERINA	0.4	0.4	0.2	0.2	4.4	2.1	0.8	0.4
72.0	OPHIOSTIGMA ISACANTHUM	.	.	1.4	1.0	2.0	1.1	2.2	1.4
73.0	NEMATODA	2.2	1.4	2.8	1.7	0.2	0.2	0.2	0.2
75.0	BRACHYURA	0.6	0.4	2.0	1.4	1.4	0.5	1.2	0.7
75.0	CHRYSOPETALIDAE A	1.8	1.6	1.2	0.4	0.4	0.2	1.8	0.7
75.0	LUMBRINERIS COCCINEA	1.8	1.6	2.2	1.6	0.4	0.2	0.8	0.5
77.5	LEPTOCHELA PAPULATA	.	.	0.4	0.2	2.2	1.6	2.4	1.2
77.5	SYNALPHEUS SP.	.	.	1.6	1.0	2.4	1.7	1.0	0.4
80.0	GONIADIDES CAROLINAE	0.6	0.6	0.8	0.4	2.6	2.3	0.8	0.4
80.0	LEPTOCHELIA SP.	.	.	4.8	4.1	.	.	.	.
80.0	PAGURIDEA	.	.	0.6	0.4	1.6	1.0	2.6	1.0
83.0	ODONTOSYLLIS ENOPLA	1.2	0.7	1.0	0.8	1.2	0.6	1.2	0.7
83.0	PISTA PALMATA	1.4	1.0	1.8	0.9	1.0	0.4	0.4	0.2
83.0	SIPUNCULIDA A	1.4	1.0	2.8	1.5	.	.	0.4	0.2
85.5	MELITIDAE A	1.6	1.0	0.8	0.5	1.8	1.8	0.2	0.2
85.5	XANTHIDAE	4.4	3.9	.	.	.	.	.	.
87.0	CARPIAS BERMUDENSIS	1.2	0.7	1.4	0.9	0.8	0.5	0.8	0.6
89.0	INACHOIDES FORCEPS	1.2	0.7	0.4	0.4	.	.	2.4	1.5
89.0	LATREUTES PARVULUS	1.8	1.1	0.8	0.8	0.2	0.2	1.2	0.6
89.0	PRIONOSPIO CIRRIFERA	1.6	1.0	0.8	0.6	.	.	1.6	0.7
92.0	AXIOTHELLA MUCOSA	0.2	0.2	2.0	1.4	0.6	0.4	1.0	0.4
92.0	NOTOMASTUS SP.	1.4	0.7	1.6	0.9	.	.	0.8	0.4
92.0	TRYPANOSYLLIS ZEBRA	2.0	1.5	0.4	0.2	.	.	1.4	0.7
95.5	BODOTRIIDAE B	1.6	0.5	0.6	0.4	.	.	1.4	1.4
95.5	CIRROPHORUS LYRIFORMIS	.	.	.	.	2.6	2.6	1.0	0.3
95.5	MARPHYSA SP. A	1.8	0.9	0.6	0.6	0.6	0.2	0.6	0.6
95.5	PHERUSA INFLATA	1.6	0.7	1.2	0.8	.	.	0.8	0.6
101.5	CERATONEREIS SP.	0.2	0.2	0.6	0.4	1.2	1.0	1.4	1.0
101.5	CERATONEREIS SP. A	1.2	0.6	0.8	0.4	.	.	1.4	0.7
101.5	CERATONEREIS MIRABILIS	0.2	0.2	0.4	0.2	1.4	0.5	1.4	0.9
101.5	COLOMASTIX SP.	.	.	.	.	0.6	0.6	2.8	2.5
101.5	LOIMIA MEDUSA	2.2	1.5	1.0	0.3	.	.	0.2	0.2
101.5	MELITA APPENDICULATA	1.4	0.9	0.4	0.2	0.6	0.6	1.0	1.0
101.5	OPHIOSTIGMA SP.	.	.	3.4	2.1	.	.	.	.
101.5	OPHIUROIDEA	2.2	1.0	.	.	1.2	1.2	.	.
108.5	BOWMANIELLA PORTORICENSIS	.	.	1.4	0.7	1.6	0.6	0.2	0.2
108.5	CIRRATULIDAE	3.0	3.0	0.2	0.2	.	.	.	.
108.5	MAERA SP. A	1.4	0.6	1.4	1.4	0.4	0.4	.	.
108.5	MUSCULUS LATERALIS	1.6	0.8	0.4	0.2	0.8	0.4	0.4	0.4
108.5	NASSARIUS ALBUS	0.8	0.6	1.6	0.8	0.4	0.2	0.4	0.2

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
108.5	XANTHIDAE B	0.6	0.6	0.8	0.6	.	.	1.8	1.0
115.5	ALPHEUS NORMANNI	0.8	0.8	0.6	0.2	0.6	0.4	1.0	0.5
115.5	ARCA IMBRICATA	2.0	1.3	1.0	0.4	.	.	.	.
115.5	CRASSINELLA LUNULATA	0.2	0.2	2.0	0.9	0.8	0.4	.	.
115.5	MEGALUROPUS SP.	0.8	0.6	0.2	0.2	.	.	2.0	0.6
115.5	PISTA QUADRILOBATA	1.4	0.7	1.6	0.7	.	.	.	.
115.5	TANYSTYLIDAE A	1.2	0.4	1.6	0.7	.	.	0.2	0.2
115.5	TELLINA SYBARITICA	0.4	0.4	1.4	0.5	0.4	0.2	0.8	0.8
115.5	TRICHOBRANCHUS GLACIALIS	1.4	1.2	0.4	0.2	0.2	0.2	1.0	0.4
123.5	EUNICE FILAMENTOSA	1.0	0.8	0.4	0.4	0.4	0.2	1.0	1.0
123.5	GASTROCHAENA HIANS	0.2	0.2	1.2	1.2	0.2	0.2	1.2	0.5
123.5	MARGINELLA LAVALLEEANA	1.0	0.6	1.6	0.7	0.2	0.2	.	.
123.5	NASSARINA MINOR	1.2	1.0	1.2	0.6	0.4	0.2	.	.
123.5	NICOMACHE TRISPINATA	1.8	1.6	.	.	0.4	0.4	0.6	0.4
123.5	PAGURUS HENDERSONI	0.2	0.2	0.4	0.2	0.6	0.2	1.6	0.9
123.5	PELIA MUTICA	1.0	0.8	0.8	0.6	0.4	0.4	0.6	0.6
123.5	SICYONIA SP.	0.6	0.4	0.8	0.5	.	.	1.4	0.9
129.0	AMPELISCA VADORUM	2.2	0.8	0.2	0.2	.	.	0.2	0.2
129.0	DIPLODONTA PUNCTATA	2.0	1.8	0.6	0.4	.	.	.	.
129.0	SYLLIS GRACILIS	1.8	1.1	0.2	0.2	0.2	0.2	0.4	0.2
134.0	ANCHIALINA TYPICA	.	.	0.8	0.5	1.2	0.4	0.4	0.2
134.0	LAONICE CIRRATA	1.2	1.0	0.2	0.2	0.2	0.2	0.8	0.6
134.0	LEUCOTHOIDES POTTSI	.	.	1.8	1.3	0.4	0.2	0.2	0.2
134.0	PETALOPROCTUS SOCIALIS	.	.	1.8	1.8	0.6	0.4	.	.
134.0	PROCESSA SP.	.	.	.	.	.	.	2.4	1.0
134.0	SCOLOPLOS SP. A	.	.	.	.	0.4	0.4	2.0	1.5
134.0	SYNCHELIDIUM AMERICANUM	1.8	1.0	0.6	0.4	.	.	.	.
140.5	AMPHIPODA B	1.2	1.0	0.2	0.2	0.8	0.6	.	.
140.5	ANOPLODACTYLUS PETIOLATUS	1.2	0.7	0.6	0.4	0.2	0.2	0.2	0.2
140.5	HYDROIDES SP. A	0.8	0.6	.	.	0.8	0.5	0.6	0.6
140.5	LITHOPHAGA BISULCATA	0.2	0.2	0.2	0.2	0.4	0.4	1.4	0.5
140.5	MITHRAX PLEURACANTHUS	1.4	1.0	0.2	0.2	.	.	0.6	0.6
140.5	POMATOCEROS AMERICANUS	0.6	0.2	1.2	0.7	0.2	0.2	0.2	0.2
151.0	AMPELISCA SCHELLENBERGI	.	.	1.2	1.0	.	.	0.8	0.5
151.0	ARABELLA MUTANS	0.2	0.2	1.0	0.8	0.4	0.2	0.4	0.2
151.0	CHONE SP.	.	.	.	.	2.0	2.0	.	.
151.0	COLOMASTIX SP. B	.	.	1.6	1.6	0.4	0.4	.	.
151.0	COMACTINIA MERIDIONALIS	0.6	0.4	0.2	0.2	0.6	0.6	0.6	0.6
151.0	LYSIANOPSIS ALBA	.	.	1.0	1.0	0.8	0.8	0.2	0.2
151.0	MALDANIDAE	0.6	0.2	0.4	0.4	0.8	0.6	0.2	0.2
151.0	MELPHIDIPPIDAE A	0.4	0.2	0.4	0.2	0.6	0.4	0.6	0.4
151.0	NEPHTYS SQUAMOSA	0.4	0.2	0.2	0.2	0.6	0.6	0.8	0.5
151.0	PELECYPODA B	0.8	0.8	0.4	0.2	0.4	0.4	0.4	0.4
151.0	PHYLLODOCIDAE	0.4	0.2	1.2	1.2	0.2	0.2	0.2	0.2
151.0	SERPULIDAE	0.8	0.4	0.4	0.4	0.6	0.6	0.2	0.2
151.0	SIPUNCULIDA	0.2	0.2	0.6	0.4	0.4	0.2	0.8	0.6
151.0	SYLLIS ALTERNATA	0.2	0.2	1.6	0.9	0.2	0.2	.	.
151.0	SYLLIS REGULATA CAROLINAE	1.4	0.9	0.2	0.2	.	.	0.4	0.4
164.0	AMPHARETE ACUTIFRONS	0.2	0.2	0.6	0.4	1.0	0.6	.	.
164.0	CERITHIOPSIS GREENI	.	.	1.8	1.8	.	.	.	.
164.0	LEMBOS UNICORNIS	.	.	.	.	1.4	1.0	0.4	0.2
164.0	LYSIANASSIDAE A	0.4	0.2	0.8	0.4	0.2	0.2	0.4	0.2
164.0	LYSIDICE NINETTA	0.4	0.2	0.4	0.2	0.8	0.6	0.2	0.2
164.0	PAGURUS HENDERSONI *	1.8	1.8	.	.	.	.	.	.
164.0	PINNIXA SP.	0.4	0.4	0.8	0.2	.	.	0.6	0.4

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
164.0	SICYONIA LAEVIGATA	1.2	0.8	•	•	•	•	0.6	0.2
164.0	SPIO PETTIBONEAE	0.6	0.4	0.4	0.4	•	•	0.8	0.6
164.0	TIRON TROPAKIS	0.2	0.2	•	•	•	•	1.6	0.8
164.0	TURBONILLA INCISA	0.4	0.2	•	•	0.4	0.4	1.0	0.4
177.5	ASCORHYNCHUS CASTELLI	0.8	0.6	0.4	0.4	0.2	0.2	0.2	0.2
177.5	CAPRELLIDAE A	•	•	•	•	1.6	1.6	•	•
177.5	CAULLERIELLA KILLARIENSIS	1.0	0.5	0.2	0.2	0.2	0.2	0.2	0.2
177.5	CERITHIOPSIS EMERSONI	•	•	1.6	1.6	•	•	•	•
177.5	CREPIDULA ACULEATA	0.4	0.4	0.2	0.2	1.0	0.4	•	•
177.5	DIODORA CAYENENSIS	0.4	0.4	0.2	0.2	0.8	0.4	0.2	0.2
177.5	EULALIA MACROCEROS	0.4	0.4	0.6	0.4	0.4	0.2	0.2	0.2
177.5	GALATHEA ROSTRATA	0.4	0.2	1.2	1.2	•	•	•	•
177.5	GLYCERA CAPITATA	0.2	0.2	1.2	1.2	0.2	0.2	•	•
177.5	HYBOSCOLEX LONGISETA	0.4	0.2	0.8	0.4	•	•	0.4	0.2
177.5	LUMBRINERIS LATREILLI	0.6	0.6	0.8	0.6	•	•	0.2	0.2
177.5	MARGINELLA AUREOCINCTA	•	•	•	•	1.0	1.0	0.6	0.4
177.5	ONUPHIS NEBULOSA	•	•	0.6	0.4	0.8	0.8	0.2	0.2
177.5	OSTRACODA	1.0	0.8	•	•	0.6	0.6	•	•
177.5	PERICLIMENES SP.	0.2	0.2	0.2	0.2	0.2	0.2	1.0	0.4
177.5	PHYLLODOCE FRAGILIS	0.8	0.4	0.2	0.2	0.4	0.2	0.2	0.2
190.0	CARIDEA	•	•	0.8	0.4	•	•	0.6	0.4
190.0	CHAMA CONGREGATA	0.4	0.2	•	•	0.2	0.2	0.8	0.6
190.0	LINGA AMIANTUS	•	•	0.6	0.6	0.2	0.2	0.6	0.4
190.0	NEREIDAE C	1.4	1.4	•	•	•	•	•	•
190.0	PAGURIDAE	0.4	0.4	1.0	0.6	•	•	•	•
190.0	PHYLLODOCE SP.	•	•	0.6	0.4	0.2	0.2	0.6	0.4
190.0	SEMELE BELLASTRIATA	•	•	•	•	0.2	0.2	1.2	0.6
190.0	SYLLIDAE I	1.0	1.0	0.2	0.2	•	•	0.2	0.2
190.0	SYLLIDAE L	•	•	0.2	0.2	0.4	0.2	0.8	0.4
203.0	BRANCHIOSYLLIS OCULATA	•	•	0.8	0.6	0.4	0.4	•	•
203.0	CHAMA MACEROPHYLLA	0.8	0.8	0.4	0.4	•	•	•	•
203.0	COLUBRARIA LANCEOLATA	•	•	•	•	1.2	1.2	•	•
203.0	GLYCERA TESSELATA	0.2	0.2	0.4	0.2	0.2	0.2	0.4	0.4
203.0	HOLOTHUROIDEA	0.4	0.2	•	•	0.4	0.2	0.4	0.2
203.0	HYDROIDES CRUCIGERA	0.6	0.4	•	•	0.2	0.2	0.4	0.2
203.0	LUCIFER FAXONI	•	•	•	•	1.2	0.4	•	•
203.0	MANGELIA RUGIRIMA	•	•	0.8	0.8	0.2	0.2	0.2	0.2
203.0	PHYLLOCARIDA	•	•	0.6	0.4	0.6	0.4	•	•
203.0	PHYLLODOCE CASTANEA	•	•	0.6	0.6	•	•	0.6	0.6
203.0	PSEUDOVERMILIA SP. A	0.8	0.5	0.2	0.2	•	•	0.2	0.2
203.0	PSEUDOVERMILIA OCCIDENTALIS	•	•	0.2	0.2	•	•	1.0	0.5
203.0	SABELLARIA VULGARIS VULGARIS	0.6	0.4	•	•	0.2	0.2	0.4	0.2
203.0	STENOTHOE SP. A	•	•	0.8	0.8	•	•	0.4	0.2
203.0	SYLLIS SP. D	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2
203.0	SYLLIS SP. I	•	•	•	•	•	•	1.2	0.7
203.0	VARICORBULA OPERCULATA	0.4	0.2	0.2	0.2	0.2	0.2	0.4	0.4
229.0	APANTHURA MAGNIFICA	•	•	0.2	0.2	•	•	0.8	0.6
229.0	ARMANDIA MACULATA	0.4	0.2	•	•	•	•	0.6	0.2
229.0	CAPITELLIDAE A	0.4	0.4	0.2	0.2	•	•	0.4	0.4
229.0	CERAPUS TUBULARIS	0.2	0.2	0.8	0.6	•	•	•	•
229.0	CHRYSOPETALIDAE B	0.4	0.2	•	•	•	•	0.6	0.4
229.0	COLOMASTIX SP. A	1.0	0.8	•	•	•	•	•	•
229.0	CREPIDULA PLANA	•	•	1.0	1.0	•	•	•	•
229.0	CRUCIGERA WEBSTERI	0.2	0.2	0.4	0.2	0.4	0.2	•	•
229.0	CUMINGIA TELLINOIDES	0.8	0.6	•	•	•	•	0.2	0.2

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
229.0	EURYDICE LITTORALIS	0.2	0.2	0.2	0.2	0.6	0.6	•	•
229.0	HAPLOSCOLOPLOS FRAGILIS	•	•	•	•	•	•	1.0	0.8
229.0	HESIONIDAE	•	•	0.6	0.6	0.4	0.4	•	•
229.0	HIPPOLYTE SP.	•	•	•	•	•	•	1.0	1.0
229.0	HIPPOLYTIDAE	0.2	0.2	0.2	0.2	•	•	0.6	0.6
229.0	HYPOCONCHA SABULOSA	0.2	0.2	•	•	•	•	0.8	0.8
229.0	JAEROPSIS CORALICOLA	0.2	0.2	0.4	0.4	0.4	0.4	•	•
229.0	LIMA PELLUCIDA	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2
229.0	LYONSIA HYALINA	•	•	1.0	0.6	•	•	•	•
229.0	MAGELONA SP. A	•	•	0.8	0.6	0.2	0.2	•	•
229.0	MAJIDAE	0.4	0.4	•	•	•	•	0.6	0.4
229.0	MITHRAX SP.	•	•	•	•	0.6	0.6	0.4	0.4
229.0	MODIOLUS AMERICANUS	•	•	1.0	0.5	•	•	•	•
229.0	NEREIS SP.	0.4	0.4	•	•	0.4	0.4	0.2	0.2
229.0	OPHELIA DENTICULATA	•	•	•	•	•	•	1.0	0.6
229.0	PALICUS SP.	1.0	0.6	•	•	•	•	•	•
229.0	PARAPRIONOSPIO PINNATA	•	•	0.2	0.2	•	•	0.8	0.6
229.0	PERSICULA CANTENATA	•	•	0.4	0.2	0.4	0.2	0.2	0.2
229.0	POLYDORA SP.	0.4	0.4	•	•	0.6	0.4	•	•
229.0	POLYDORA TETRABRANCHIA	•	•	•	•	•	•	1.0	1.0
229.0	SCHISTOMERINGOS RUDOLPHI	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.2
229.0	SPIONIDAE	0.6	0.4	0.2	0.2	0.2	0.2	•	•
229.0	STREBLOSOMA SP.	•	•	•	•	•	•	1.0	1.0
229.0	SYLLIDAE C	0.6	0.6	•	•	•	•	0.4	0.2
229.0	SYNALPHEUS FRITZMUELLERI *	•	•	•	•	1.0	1.0	•	•
229.0	VERMILIOPSIS ANNULATA	0.8	0.5	•	•	0.2	0.2	•	•
263.5	AONIDES MAYAGUEZENSIS	•	•	•	•	0.2	0.2	0.6	0.4
263.5	ASPIDOSIPHON ALBUS	0.2	0.2	0.6	0.4	•	•	•	•
263.5	AUTOMATE EVERMANNI	•	•	•	•	•	•	0.8	0.6
263.5	BATRACHONOTUS FRAGOSUS	0.2	0.2	0.4	0.2	0.2	0.2	•	•
263.5	CAPITELLIDAE	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
263.5	DIPLODONTA SEMIASPERA	0.2	0.2	•	•	0.6	0.4	•	•
263.5	EULALIA SP.	0.6	0.6	0.2	0.2	•	•	•	•
263.5	EUNICIDAE	0.2	0.2	0.4	0.4	0.2	0.2	•	•
263.5	GLYCERA SP. C	•	•	0.8	0.6	•	•	•	•
263.5	GLYCERA PAPILLOSA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
263.5	HETEROCRYPTA GRANULATA	•	•	0.2	0.2	•	•	0.6	0.4
263.5	HETEROMYSIS FORMOSA	0.6	0.4	0.2	0.2	•	•	•	•
263.5	KURTZIELLA ATROSTYLA	0.8	0.6	•	•	•	•	•	•
263.5	LEMBOS UNIFASCIATUS REDUCTUS	•	•	•	•	0.6	0.4	0.2	0.2
263.5	MELITIDAE	•	•	0.4	0.4	0.4	0.4	•	•
263.5	MICROPANOPE SP.	0.6	0.4	0.2	0.2	•	•	•	•
263.5	MICROPHOLIS PACHYBACTERA	•	•	0.8	0.8	•	•	•	•
263.5	NEREIDAE	0.4	0.4	0.4	0.2	•	•	•	•
263.5	NEREIS RIISEI	•	•	0.4	0.2	0.4	0.4	•	•
263.5	OLIGOCHAETA	0.2	0.2	•	•	0.2	0.2	0.4	0.4
263.5	PALAEMONIDAE	0.2	0.2	•	•	•	•	0.6	0.6
263.5	PARAONIDAE	•	•	0.6	0.6	0.2	0.2	•	•
263.5	PERICLIMENAEUS SCHMITTI	•	•	•	•	•	•	0.8	0.8
263.5	PHERUSA SP.	•	•	0.4	0.4	0.2	0.2	0.2	0.2
263.5	PISANIA TINCTA	•	•	0.2	0.2	0.6	0.2	•	•
263.5	PLEUROMERIS TRIDENTATA	0.6	0.6	0.2	0.2	•	•	•	•
263.5	PRIONOSPIO SP.	0.2	0.2	0.2	0.2	•	•	0.4	0.4
263.5	PROTODORVILLEA KEFERSTEINI	0.4	0.2	•	•	0.4	0.4	•	•
263.5	SCOLOPLOS RUBRA	•	•	•	•	0.4	0.4	0.4	0.2

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
263.5	SIPUNCULIDA E	0.4	0.2	•	•	•	•	0.4	0.4
263.5	SPIONIDAE B	•	•	0.4	0.2	•	•	0.4	0.2
263.5	SYLLIS CORNUTA	•	•	0.2	0.2	0.2	0.2	0.4	0.4
263.5	TRYPTON SP.	0.2	0.2	0.4	0.4	0.2	0.2	•	•
263.5	WEBSTERINEREIS SP. A	•	•	0.6	0.4	0.2	0.2	•	•
310.5	ALPHEUS SP.	•	•	•	•	•	•	0.6	0.4
310.5	AMPELISCA CRISTOIDES	•	•	0.4	0.4	•	•	0.2	0.2
310.5	AMPHIPODA E	0.6	0.4	•	•	•	•	•	•
310.5	ANAMIXIS SP.	•	•	•	•	•	•	0.6	0.4
310.5	ANOMIA SQUAMULA	•	•	•	•	0.4	0.4	0.2	0.2
310.5	ARBACIA PUNCTULATA	•	•	0.2	0.2	0.2	0.2	0.2	0.2
310.5	ASTERIAS FORBESII	•	•	0.6	0.6	•	•	•	•
310.5	BRACHIOPODA A	0.2	0.2	0.2	0.2	0.2	0.2	•	•
310.5	BRANIA CLAVATA	0.2	0.2	0.2	0.2	•	•	0.2	0.2
310.5	CHIONE SP. *	0.6	0.6	•	•	•	•	•	•
310.5	CHIONE LATILIRATA	•	•	•	•	0.4	0.4	0.2	0.2
310.5	CIRRIFORMIA FILIGERA	•	•	0.6	0.4	•	•	•	•
310.5	CORBULA CONTRACTA	•	•	•	•	0.4	0.2	0.2	0.2
310.5	CUMACEA	0.6	0.6	•	•	•	•	•	•
310.5	CYCLASPIS VARIANS	0.6	0.4	•	•	•	•	•	•
310.5	DENDRODORIS KREBSII	0.2	0.2	0.4	0.2	•	•	•	•
310.5	DIASTYLIDAE	•	•	•	•	0.2	0.2	0.4	0.4
310.5	EBALIA STIMPSONI	0.2	0.2	•	•	•	•	0.4	0.4
310.5	ENGINA TURBINELLA	•	•	0.6	0.6	•	•	•	•
310.5	EUNICE SP.	0.2	0.2	•	•	0.2	0.2	0.2	0.2
310.5	EUNICE ANTENNATA	0.4	0.2	•	•	•	•	0.2	0.2
310.5	EUPHROSINE TRILOBA	0.2	0.2	•	•	•	•	0.4	0.2
310.5	EXOGONE SP.	0.6	0.6	•	•	•	•	•	•
310.5	FAVARTIA CELLULOSA	0.2	0.2	0.4	0.2	•	•	•	•
310.5	GLYCERA SP. B	•	•	0.2	0.2	0.2	0.2	0.2	0.2
310.5	HEMUS CRISTULIPES	•	•	0.2	0.2	•	•	0.4	0.2
310.5	HIPPOMEDON SP. A	0.2	0.2	0.4	0.4	•	•	•	•
310.5	HYDROIDES UNCINATA	•	•	0.2	0.2	0.4	0.4	•	•
310.5	LAEVICARDIUM MORTONI	0.6	0.6	•	•	•	•	0.6	0.6
310.5	LASAEIDAE	•	•	0.6	0.6	•	•	•	•
310.5	LEUCOTHOE SP. A	0.6	0.4	•	•	•	•	0.6	0.6
310.5	METOPORHAPHIS CALCARATA	•	•	•	•	•	•	•	•
310.5	NEOPONTONIDES BEAUFORTENSIS *	0.6	0.6	•	•	•	•	0.4	0.4
310.5	NEPHTYS INCISA	0.2	0.2	•	•	•	•	0.4	0.4
310.5	ODONTOSYLLIS SP.	0.2	0.2	•	•	0.2	0.2	0.4	0.4
310.5	OGYRIDES SP.	•	•	0.4	0.2	0.2	0.2	•	•
310.5	ONUPHIS PALLIDULA	0.2	0.2	0.2	0.2	•	•	0.2	0.2
310.5	PAGURISTES TORTUGAE	•	•	•	•	•	•	0.6	0.6
310.5	PERICLIMENES AMERICANUS	0.4	0.4	0.2	0.2	•	•	•	•
310.5	PILUMNUS SAYI	•	•	0.2	0.2	•	•	0.4	0.4
310.5	PINNOTHERIDAE	•	•	•	•	0.2	0.2	0.4	0.4
310.5	PISIONE REMOTA	•	•	•	•	0.2	0.2	0.4	0.2
310.5	PITHO CHERMINIERI	•	•	•	•	0.4	0.4	•	•
310.5	SABELLIDAE	0.2	0.2	•	•	0.2	0.2	0.2	0.2
310.5	SEMELE PURPURASCENS	0.2	0.2	•	•	0.4	0.4	0.2	0.2
310.5	SEROLIS MGRAYI	•	•	•	•	•	•	0.6	0.6
310.5	SPEOCARCINUS CAROLINENSIS	•	•	•	•	•	•	0.2	0.2
310.5	STENORHYNCHUS SETICORNIS	0.2	0.2	0.2	0.2	•	•	0.2	0.2
310.5	STROMBIFORMIS BILINEATUS	0.2	0.2	0.2	0.2	•	•	•	•

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
310.5	SUBADYTE PELLUCIDA			0.6	0.6				
310.5	SYLLIDAE	0.2	0.2	0.2	0.2	0.2	0.2		
310.5	SYLLIS SP. B	0.2	0.2					0.4	0.4
310.5	SYLLIS SP. G			0.6	0.2				
310.5	TANAIDACEA B	0.2	0.2					0.4	0.4
310.5	TEREBELLIDAE	0.2	0.2	0.2	0.2			0.2	0.2
310.5	THOR FLORIDANUS			0.6	0.6				
310.5	THOR MANNINGI					0.2	0.2	0.4	0.2
310.5	TRIPHORA NIGROCINCTA			0.6	0.6				
310.5	TURBONILLA INTERRUPTA			0.6	0.4				
369.5	ACANTHOHAUSTORIUS SHOEMAKERI	0.4	0.2						
369.5	AMPHIODIA TRYCHNA	0.4	0.2						
369.5	AMPHIPODA F	0.2	0.2					0.2	0.2
369.5	ARCA ZEBRA	0.2	0.2			0.2	0.2		
369.5	ARICIDEA SP.			0.4	0.4				
369.5	ASTROPECTEN SP.			0.4	0.4				
369.5	BARNEA TRUNCATA	0.4	0.4						
369.5	BODOTRIIDAE A	0.2	0.2					0.2	0.2
369.5	CHIONE INTAPURPUREA	0.4	0.4						
369.5	CIRRATULUS SP.			0.4	0.4				
369.5	DIODORA LISTERI					0.4	0.4		
369.5	DORIOPSILLA ALBOPUNCTATA	0.4	0.4						
369.5	DORIOPSILLA ROWENA	0.4	0.2						
369.5	ETHUSA MASCARONE AMERICANA	0.2	0.2					0.2	0.2
369.5	EULALIA VIRIDIS							0.4	0.2
369.5	HARMOTHOE SP.							0.4	0.4
369.5	HEMIPODUS ROSEUS	0.4	0.4						
369.5	HYDROIDES SP. C			0.4	0.4				
369.5	LATREUTES SP.							0.4	0.4
369.5	LEPTOGNATHIIDAE A	0.2	0.2	0.2	0.2				
369.5	LUMBRINERIOPSIS PARADOXA					0.2	0.2	0.2	0.2
369.5	LYONSIA SP.					0.4	0.4		
369.5	LYONSIA SP. *	0.4	0.2						
369.5	LYONSIA BEANA					0.4	0.2		
369.5	LYSIDICE SP. A					0.4	0.4		
369.5	MADRELLA SP.	0.4	0.4						
369.5	MEDIOMASTUS CALIFORNIENSIS	0.2	0.2					0.2	0.2
369.5	MITHRAX FORCEPS			0.2	0.2			0.2	0.2
369.5	MUNIDA SP.	0.2	0.2			0.2	0.2		
369.5	MUREX POMUM	0.4	0.2						
369.5	NATICA PUSILLA					0.4	0.4		
369.5	NOTOMASTUS HEMIPODUS	0.2	0.2					0.2	0.2
369.5	OCNUS PYGMAEUS	0.2	0.2			0.2	0.2		
369.5	ONUPHIDAE	0.4	0.2						
369.5	OPHIODERMA BREVISPINUM	0.2	0.2	0.2	0.2				
369.5	PARAPHOXUS SPINOSUS	0.4	0.4						
369.5	PELECYPODA G							0.4	0.2
369.5	PERICLIMENAEUS SP. A	0.4	0.4						
369.5	PHIDIANA LYNCEUS					0.4	0.2		
369.5	PILUMNUS DASYPODUS								
369.5	PODOCHELA SP.			0.4	0.4				
369.5	PODOCHELA GRACILIPES			0.4	0.2				
369.5	POLYCERA AURISULA							0.4	0.4
369.5	PORTUNUS SP.			0.2	0.2			0.2	0.2
369.5	PRIONOSPIO SP. C	0.4	0.4	0.2	0.2			0.2	0.2

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
369.5	PSEUDEURYTHOE AMBIGUA	•	•	•	•	0.4	0.4	•	•
369.5	SCOLOPLOS ARMIGER	•	•	•	•	0.4	0.2	•	•
369.5	SIRAIUS BICOLOR	0.2	0.2	•	•	0.2	0.2	•	•
369.5	SPEOCARCINUS CAROLINENSIS *	•	•	•	•	•	•	0.4	0.4
369.5	STENOTHOE SP. B	•	•	0.4	0.4	•	•	•	•
369.5	STENOTHOE GEORGIANA	0.4	0.4	•	•	•	•	•	•
369.5	SYNALPHEUS MINUS	•	•	•	•	0.4	0.4	•	•
369.5	TELLINA ALTERNATA	0.4	0.4	•	•	•	•	•	•
369.5	THYONE PSEUDOFUSUS	0.2	0.2	0.2	0.2	•	•	•	•
369.5	TRICHOPHOXUS FLORIDANUS	0.2	0.2	•	•	•	•	0.2	0.2
369.5	TURBONILLA SP. D	0.4	0.4	•	•	•	•	•	•
369.5	TURRIDAE F	0.4	0.2	•	•	•	•	•	•
369.5	ZEBINA BROWNIANA	•	•	•	•	0.4	0.2	•	•
488.5	ACTEON CANDENS	•	•	0.2	0.2	•	•	•	•
488.5	ALABA INCERTA	•	•	•	•	0.2	0.2	•	•
488.5	ALPHEIDAE	•	•	•	•	•	•	0.2	0.2
488.5	ALPHEUS SP. B	•	•	•	•	0.2	0.2	•	•
488.5	ALPHEUS FORMOSUS	0.2	0.2	•	•	•	•	•	•
488.5	AMBLYOSYLLIS FORMOSA	•	•	•	•	•	•	0.2	0.2
488.5	AMPELISCA VERRILLI	•	•	0.2	0.2	•	•	•	•
488.5	AMPHILOCHUS SP.	0.2	0.2	•	•	•	•	•	•
488.5	AMPHIPODA G	•	•	•	•	0.2	0.2	•	•
488.5	AMPITHOIDAE A	•	•	•	•	0.2	0.2	•	•
488.5	AMYGDALUM SAGITTATUM	•	•	0.2	0.2	•	•	•	•
488.5	ANCISTROSYLLIS RIGIDA	•	•	•	•	•	•	0.2	0.2
488.5	ANOPLODACTYLUS INSIGNIS	•	•	0.2	0.2	•	•	•	•
488.5	ARABELLA IRICOLOR	•	•	0.2	0.2	•	•	•	•
488.5	ARCOPSIS ADAMSI	•	•	•	•	0.2	0.2	•	•
488.5	ARENE TRICARINATA	•	•	•	•	•	•	0.2	0.2
488.5	ARICIDEA FRAGILIS	•	•	•	•	•	•	0.2	0.2
488.5	ARICIDEA SUECICA	•	•	•	•	0.2	0.2	•	•
488.5	AUSTRAEOLIS CATINA	•	•	•	•	•	•	0.2	0.2
488.5	BARLEETA SP. *	0.2	0.2	•	•	•	•	•	•
488.5	BODOTRIIDAE C	0.2	0.2	•	•	•	•	•	•
488.5	BODOTRIIDAE D	•	•	•	•	•	•	0.2	0.2
488.5	BOTULA FUSCA	•	•	•	•	0.2	0.2	•	•
488.5	BRANCHIOSYLLIS SP.	0.2	0.2	•	•	•	•	•	•
488.5	BRANIA SP.	•	•	0.2	0.2	•	•	•	•
488.5	CAECUM CUBITATUM	0.2	0.2	•	•	•	•	•	•
488.5	CALLIOSTOMA SP.	•	•	0.2	0.2	•	•	•	•
488.5	CALLIOSTOMA PULCHRUM *	•	•	0.2	0.2	•	•	•	•
488.5	CAPITELLIDAE B	•	•	0.2	0.2	•	•	•	•
488.5	CERADOCUS SP.	0.2	0.2	•	•	•	•	•	•
488.5	CERATONEREIS IRRITABILIS	•	•	0.2	0.2	•	•	•	•
488.5	CHAETOPTERIDAE	•	•	•	•	0.2	0.2	•	•
488.5	CHAETOZONE SETOSA	•	•	•	•	0.2	0.2	•	•
488.5	CHIONE CANCELLATA	0.2	0.2	•	•	•	•	•	•
488.5	CHRYSOPETALIDAE C	0.2	0.2	•	•	•	•	•	•
488.5	CHRYSOPETALIDAE D	•	•	•	•	•	•	0.2	0.2
488.5	CONUS DAUCUS	0.2	0.2	•	•	•	•	•	•
488.5	CRENELLA DIVARICATA	•	•	0.2	0.2	•	•	•	•
488.5	CUMINGIA COARCTATA	•	•	0.2	0.2	•	•	•	•
488.5	DASYBRANCHUS SP.	•	•	•	•	•	•	0.2	0.2
488.5	DELECTOPECTEN SP.	0.2	0.2	•	•	•	•	•	•
488.5	DENDRODORIS SP. A	•	•	0.2	0.2	•	•	•	•

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
488.5	DIODORA CAYENENSIS *	0.2	0.2	.	.	.	.	.	.
488.5	DIOPATRA CUPREA	.	.	.	.	0.2	0.2	.	.
488.5	DONDICE OCCIDENTALIS	.	.	.	.	.	.	0.2	0.2
488.5	DORTOPSILLA LEIA	0.2	0.2	.	.	.	.	.	.
488.5	DORVILLEA SOCIABILIS	0.2	0.2	.	.	.	.	.	.
488.5	DROMIDIA ANTILLENSIS	.	.	.	.	0.2	0.2	.	.
488.5	DROMIDIA ANTILLENSIS *	.	.	0.2	0.2	.	.	.	.
488.5	ECHINASTER SP.	.	.	.	.	.	.	0.2	0.2
488.5	EPITONIUM FOLIACEICOSTUM	.	.	.	.	0.2	0.2	.	.
488.5	ERATO MAUGERIAE	0.2	0.2	.	.	.	.	.	.
488.5	ERICHSONELLA FILIFORMIS	.	.	.	.	0.2	0.2	.	.
488.5	ETEONE LACTEA	.	.	.	.	.	.	0.2	0.2
488.5	GALATHEIDAE	0.2	0.2	.	.	.	.	.	.
488.5	GASTROPODA	0.2	0.2	.	.	.	.	.	.
488.5	GENOCIDARIS MACULATA	.	.	.	.	.	.	0.2	0.2
488.5	GLOTTIDIA PYRAMIDATA	.	.	0.2	0.2	.	.	.	.
488.5	GLYCERA SP.	0.2	0.2	.	.	.	.	.	.
488.5	GLYCYMERIS SP.	.	.	.	.	.	.	0.2	0.2
488.5	GONEPLACIDAE	.	.	.	.	.	.	0.2	0.2
488.5	GONEPLAX SIGSBEI	.	.	.	.	0.2	0.2	.	.
488.5	GONIADIDAE	.	.	.	.	0.2	0.2	.	.
488.5	GONODACTYLUS BREDINI	.	.	.	.	.	.	0.2	0.2
488.5	GRAPSIDAE	.	.	.	.	.	.	0.2	0.2
488.5	GREGARIELLA CORALLIOPHAGA	.	.	0.2	0.2	.	.	.	.
488.5	GYPTIS BREVIPALPA	.	.	0.2	0.2	.	.	.	.
488.5	HAPLOSCOLOPLOS FOLIOSUS	.	.	0.2	0.2	.	.	.	.
488.5	HERMODICE CARUNCULATA	0.2	0.2	.	.	.	.	.	.
488.5	HYDROIDES SP. B	0.2	0.2	.	.	.	.	.	.
488.5	HYDROIDES SP. D	.	.	0.2	0.2	.	.	.	.
488.5	HYPERIIDEA	.	.	.	.	0.2	0.2	.	.
488.5	INACHOIDES FORCEPS *	.	.	0.2	0.2	.	.	.	.
488.5	IRIDOPAGURUS DISPAR *	0.2	0.2	.	.	.	.	.	.
488.5	ISCHNOCHITONIDAE A	0.2	0.2	.	.	.	.	.	.
488.5	LEIOCAPITELLA GLABRA	.	.	0.2	0.2	.	.	.	.
488.5	LEIOCHRIDES PALLIDIOR	0.2	0.2	.	.	.	.	.	.
488.5	LEMBOS SPINICARPUS INERMIS	.	.	.	.	.	.	0.2	0.2
488.5	LEPTOCHELA SP.	.	.	.	.	0.2	0.2	.	.
488.5	LUCAPINELLA LIMATULA	.	.	.	.	.	.	0.2	0.2
488.5	LUMBRINERIDES ACUTA	.	.	0.2	0.2	.	.	.	.
488.5	LYSIANASSA SP.	.	.	.	.	0.2	0.2	.	.
488.5	MACROCOELOMA SP. *	.	.	.	.	0.2	0.2	.	.
488.5	MACROCOELOMA EUTHECA *	.	.	.	.	.	.	0.2	0.2
488.5	MAGELONA SP.	.	.	.	.	0.2	0.2	.	.
488.5	MAGELONA SP. C	.	.	.	.	0.2	0.2	.	.
488.5	MALLUVIUM BENTHOPHILUM *	.	.	.	.	0.2	0.2	.	.
488.5	MARIONIA CUCULLATA	0.2	0.2	.	.	.	.	.	.
488.5	MEGALOMMA SP.	0.2	0.2	.	.	.	.	.	.
488.5	MEIOSQUILLA QUADRIDENS	.	.	.	.	.	.	0.2	0.2
488.5	MELANELLA CONCIDEA	.	.	.	.	0.2	0.2	.	.
488.5	MUREX FLORIFER DILECTUS	.	.	.	.	.	.	0.2	0.2
488.5	MURICIDAE	.	.	.	.	.	.	0.2	0.2
488.5	NAINERIS SP.	.	.	0.2	0.2	.	.	.	.
488.5	NANOPLAX XANTHIFORMIS *	0.2	0.2	.	.	.	.	.	.
488.5	NATANTIA	.	.	0.2	0.2	.	.	.	.
488.5	NEMATONEREIS SP.	.	.	0.2	0.2	.	.	.	.

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
488.5	NEMERTINEA E	0.2	0.2	.	.	.	.	.	.
488.5	NEOPONTONIDES BEAUFORTENSIS	.	.	.	.	.	.	0.2	0.2
488.5	NEREIDAE A	.	.	.	.	.	.	0.2	0.2
488.5	NEREIS SUCCINEA	.	.	0.2	0.2	.	.	.	.
488.5	NOTOMASTUS LATERICEUS	.	.	0.2	0.2	.	.	.	.
488.5	ONUPHIS EREMITA	.	.	.	.	.	.	0.2	0.2
488.5	OPHIOCNIDA SP.	.	.	.	.	.	.	0.2	0.2
488.5	OPHIOCNIDA SCABRIUSCULA	0.2	0.2	.	.	.	.	.	.
488.5	OPHIOPHRAGMUS PULCHER	0.2	0.2	.	.	.	.	.	.
488.5	ORBINIA RISERI	.	.	.	.	.	.	0.2	0.2
488.5	ORBINIIDAE	.	.	.	.	0.2	0.2	.	.
488.5	OSTREA PERMOLIS	0.2	0.2	.	.	.	.	.	.
488.5	OVALIPES SP.	.	.	.	.	.	.	0.2	0.2
488.5	PACHYCHELES RUGIMANUS	.	.	.	.	.	.	0.2	0.2
488.5	PAGURISTES SP.	.	.	0.2	0.2	.	.	.	.
488.5	PAGURISTES TRIANGULATUS	.	.	0.2	0.2	.	.	.	.
488.5	PALEANOTUS SP. B	.	.	.	.	0.2	0.2	.	.
488.5	PALOLO SICILIENSIS	.	.	.	.	.	.	0.2	0.2
488.5	PAPYRIDEA SOLENIFORMIS	0.2	0.2	.	.	.	.	.	.
488.5	PARAMETOPELLA CYPRIS	.	.	.	.	.	.	0.2	0.2
488.5	PARAPIONOSYLLIS SP. A	0.2	0.2	.	.	.	.	.	.
488.5	PECTINIDAE A	.	.	0.2	0.2	.	.	.	.
488.5	PELECYPODA	0.2	0.2	.	.	.	.	.	.
488.5	PELECYPODA C	.	.	.	.	0.2	0.2	.	.
488.5	PELECYPODA H	.	.	.	.	0.2	0.2	.	.
488.5	PENAEIDAE	.	.	.	.	.	.	0.2	0.2
488.5	PERICLIMENES IRIDESCENS	.	.	.	.	.	.	0.2	0.2
488.5	PETROLISTHES GALATHINUS	.	.	.	.	.	.	0.2	0.2
488.5	PHASCOLOPSIS GOULDI	.	.	.	.	.	.	0.2	0.2
488.5	PHORONIS ARCHITECTA	.	.	0.2	0.2	.	.	.	.
488.5	PHTISICA MARINA	0.2	0.2	.	.	.	.	.	.
488.5	PHYLLODOCE SP. E	.	.	0.2	0.2	.	.	.	.
488.5	PHYLLODOCE ARENAE	.	.	.	.	0.2	0.2	.	.
488.5	PHYLLODOCE LONGIPES	.	.	.	.	0.2	0.2	.	.
488.5	PILUMNUS FLORIDANUS	.	.	0.2	0.2	.	.	.	.
488.5	PINNOTHERES SP.	.	.	0.2	0.2	.	.	.	.
488.5	PIONOSYLLIS SP.	.	.	.	.	0.2	0.2	.	.
488.5	PITAR FULMINATUS	.	.	.	.	0.2	0.2	.	.
488.5	POLYCHAETA	.	.	0.2	0.2	.	.	.	.
488.5	POLYCHAETA H	.	.	.	.	.	.	0.2	0.2
488.5	POLYCIRRUS SP. B	.	.	0.2	0.2	.	.	.	.
488.5	POLYCIRRUS EXIMIUS DUBIUS	0.2	0.2	.	.	.	.	.	.
488.5	POLYNOIDAE	.	.	.	.	0.2	0.2	.	.
488.5	PONTONIINAE	.	.	0.2	0.2	.	.	.	.
488.5	POTAMILLA RENIFORMIS	0.2	0.2	.	.	.	.	.	.
488.5	PROSCOLOPLOS SP.	.	.	.	.	0.2	0.2	.	.
488.5	PSAMMOLYCE CTENIDOPHORA	.	.	.	.	0.2	0.2	.	.
488.5	PTERIA COLYMBUS	0.2	0.2	.	.	.	.	.	.
488.5	PTEROMERIS PERPLANA	.	.	.	.	.	.	0.2	0.2
488.5	PTILANTHURA TRICARINA	.	.	.	.	0.2	0.2	.	.
488.5	PYRUNCULUS CAELATUS	0.2	0.2	.	.	.	.	.	.
488.5	RILDARDANUS LAMINOSA	.	.	0.2	0.2	.	.	.	.
488.5	RISSOINA SP. A	.	.	0.2	0.2	.	.	.	.
488.5	RISSOINA CATESBYANA	0.2	0.2	.	.	.	.	.	.
488.5	SCOLOPLOS SP.	0.2	0.2	.	.	.	.	.	.

Appendix 3. (Continued)

STATION MS02

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
488.5	SICYONIA BREVIROSTRIS	.	.	.	.	.	.	0.2	0.2
488.5	SICYONIA TYPICA	.	.	.	.	.	.	0.2	0.2
488.5	SICYONIA TYPICA *	.	.	.	.	.	.	0.2	0.2
488.5	SIGALIONIDAE	.	.	.	.	0.2	0.2	.	.
488.5	SIPUNCULUS NUDUS	.	.	.	.	0.2	0.2	.	.
488.5	SIRAIUS BICOLOR *	0.2	0.2	.	.	.	.	.	.
488.5	SPELOPHORUS PONTIFER	.	.	0.2	0.2	.	.	.	.
488.5	SPHAEROSYLLIS SP.	.	.	.	.	0.2	0.2	.	.
488.5	SPIONIDAE A	.	.	0.2	0.2	.	.	.	.
488.5	SPIOPHANES SP.	.	.	0.2	0.2	.	.	.	.
488.5	STENOCIONOPS FURCATA CUELATA	.	.	.	.	0.2	0.2	.	.
488.5	STHENELAIS BOA	.	.	.	.	.	.	0.2	0.2
488.5	STROMBIFORMIS AURICINCTUS	.	.	0.2	0.2	.	.	.	.
488.5	SYLLIDAE D	.	.	.	.	.	.	0.2	0.2
488.5	SYLLIDAE J	0.2	0.2	.	.	.	.	.	.
488.5	SYLLIS FERRUGINA	.	.	.	.	.	.	0.2	0.2
488.5	TELLINA SP.	.	.	0.2	0.2	.	.	.	.
488.5	TEREBELLIDAE A	0.2	0.2	.	.	.	.	0.2	0.2
488.5	TEREBELLIDAE D	.	.	.	.	.	.	0.2	0.2
488.5	TEREBELLIDAE G	.	.	.	.	.	.	.	.
488.5	TEREBELLIDES STROEMI	0.2	0.2	.	.	.	.	.	.
488.5	THECACERA PENNIGERA	0.2	0.2	.	.	.	.	.	.
488.5	THELEPUS SETOSUS	.	.	.	.	0.2	0.2	.	.
488.5	THUNOR SP. *	0.2	0.2	.	.	.	.	.	.
488.5	TRIVIA CANDIDULA	.	.	.	.	.	.	0.2	0.2
488.5	TRIVIA PEDICULUS	.	.	.	.	0.2	0.2	.	.
488.5	TURBONILLA SP. F	.	.	.	.	.	.	0.2	0.2
488.5	VOLVULELLA PERSIMILIS	.	.	0.2	0.2	.	.	.	.

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
1.0	FILOGRANA IMPLEXA	0.6	0.4	0.2	0.2	1.6	1.0	4155.0	2605.6
2.0	LUCONACIA INCERTA	45.0	29.8	3.4	0.9	0.4	0.2	0.8	0.4
3.0	SYLLIS SPONGICOLA	16.0	8.8	0.2	0.2	6.6	3.8	20.2	13.3
4.0	CHONE AMERICANA	5.2	1.8	3.8	2.8	24.6	11.3	2.4	0.7
5.0	SPIOPHANES BOMBYX	9.4	3.0	22.2	13.4	1.6	0.8	1.6	1.1
6.0	SYLLIS HYALINA	12.8	4.2	5.8	3.0	4.6	0.7	11.4	4.5
7.0	ASPIDOSIPHON GOSNOLDI	7.6	1.6	1.0	0.5	9.8	5.3	5.6	2.8
8.0	POLYDORA COLONIA	21.4	21.4	.	.	.	.	.	.
9.0	AUTOLYTUS SP.	0.6	0.4	.	.	0.2	0.2	18.4	16.2
10.0	MALACOCEROS GLUTAEUS	6.2	5.3	2.0	1.2	8.8	4.4	1.8	0.6
11.0	LUMBRINERIS INFLATA	6.2	3.5	0.4	0.4	4.8	1.5	5.8	2.5
12.5	EUNICE VITTATA	3.0	2.0	4.0	1.9	4.2	1.4	3.8	0.9
12.5	WEBSTERINEREIS SP. B	5.8	3.9	1.2	0.6	2.8	0.9	5.2	3.0
14.0	CHRYSOPETALIDAE A	1.6	0.8	11.0	6.5	1.4	1.2	0.8	0.5
15.0	BRANIA CLAVATA	1.8	1.3	0.4	0.2	.	.	11.0	7.1
16.0	ACANTHOHAUSTORIUS MILLSI	4.8	2.1	7.6	4.1	0.6	0.4	.	.
17.0	OWENIA FUSIFORMIS	6.0	3.1	2.8	1.7	2.8	1.1	1.2	0.6
18.5	NEMERTINEA	3.0	1.1	2.4	1.5	3.6	0.9	2.6	0.7
18.5	PHYLLOCHAETOPTERUS SOCIALIS	.	.	0.2	0.2	10.0	5.5	1.4	0.7
20.0	EXOGONE DISPAR	7.2	2.6	0.6	0.4	2.0	0.8	1.6	1.0
21.0	NEMATODA	5.2	2.3	1.4	0.6	4.2	1.3	0.4	0.2
22.0	THOR SP.	0.8	0.6	.	.	.	.	10.2	3.8
23.0	OPHIACTIS SAVIGNYI	6.8	5.4	0.6	0.4	1.2	0.8	1.8	1.3
24.0	OPHIOTHRIX ANGULATA	2.0	1.0	0.6	0.2	0.6	0.4	6.0	2.5
25.0	PODOCERUS SP.	7.8	3.2	0.2	0.2	.	.	1.0	0.6
26.0	SIPUNCULIDA	3.2	1.0	0.2	0.2	2.0	0.7	3.2	2.1
27.0	LEUCOTHOE SPINICARPA	0.6	0.4	1.2	1.0	2.0	1.0	4.6	2.0
28.5	ELASMOPUS SP. B	0.6	0.6	.	.	4.0	3.5	3.4	1.6
28.5	EULALIA SANGUINEA	1.8	0.6	.	.	2.6	1.4	3.6	1.5
30.5	AMPHIODIA PULCHELLA	0.6	0.4	4.4	1.5	1.6	0.7	1.2	1.0
30.5	HYDROIDES CRUCIGERA	5.2	3.7	.	.	0.8	0.6	1.8	1.0
32.0	NOTOMASTUS SP.	3.0	2.3	0.4	0.2	1.6	0.5	2.4	0.9
33.0	CHIONE GRUS	1.0	0.4	0.4	0.2	5.2	1.9	0.6	0.4
34.5	SYLLIS SP. D	3.0	2.3	1.4	0.7	0.8	0.5	1.6	0.6
34.5	SYLLIS REGULATA CAROLINAE	5.4	3.1	.	.	.	.	1.4	0.9
36.0	SYLLIDAE	1.6	0.9	.	.	1.0	0.5	4.0	2.8
37.0	LAEVICARDIUM PICTUM	0.2	0.2	1.0	0.3	4.6	1.6	0.4	0.4
38.5	BRANCHIOSYLLIS EXILIS	3.2	1.9	0.6	0.4	0.4	0.2	1.8	0.8
38.5	PAGURUS CAROLINENSIS	0.4	0.4	0.8	0.8	2.4	1.2	2.4	1.7
40.0	PROTOMEDEIA SP. A	2.6	1.9	0.2	0.2	.	.	3.0	2.0
41.5	MEGALOMMA BIOCULATUM	1.4	0.9	0.2	0.2	3.0	1.7	1.0	0.8
41.5	UNCIOLA SP. A	0.2	0.2	5.4	3.4	.	.	.	.
43.0	OPHIOSTIGMA ISACANTHUM	.	.	.	.	3.8	2.8	1.6	1.2
44.0	POLYCIRRUS CAROLINENSIS	2.0	1.0	0.2	0.2	0.6	0.2	2.4	1.4
45.0	CRASSINELLA LUNULATA	1.4	1.0	1.4	0.7	1.8	0.7	0.4	0.4
47.5	ELASMOPUS SP. A	0.4	0.4	1.8	1.3	2.0	1.3	0.6	0.4
47.5	LEMBOS SMITHI	1.2	1.2	2.8	2.1	.	.	0.8	0.4
47.5	LEMBOS SPINICARPUS INERMIS	.	.	.	.	.	.	4.8	2.4
47.5	TELLINA AMERICANA	1.2	0.5	2.4	0.6	1.2	0.4	.	.
52.0	AMPELISCA SCHELLENBERGI	1.4	1.0	0.4	0.4	1.0	0.6	1.8	0.9
52.0	AXIOGNATHUS SQUAMATUS	1.8	1.1	0.6	0.2	1.8	1.3	0.4	0.4
52.0	MEGALUROPUS SP.	4.6	2.7	.	.	.	.	.	.
52.0	PHOTIS SP.	2.0	1.5	2.4	0.8	0.2	0.2	.	.
52.0	SERPULIDAE	1.4	1.4	.	.	0.2	0.2	3.0	2.1
55.0	POLYCIRRUS EXIMIUS	1.6	0.5	1.4	0.4	0.4	0.2	1.0	0.4

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
58.0	BOWMANIELLA PORTORICENSIS	0.8	0.5	1.8	1.1	1.2	0.4	0.4	0.2
58.0	GENOCIDARIS MACULATA	2.4	1.0	0.4	0.2	1.0	0.8	0.4	0.2
58.0	PISTA PALMATA	2.2	1.3	•	•	0.8	0.6	1.2	0.8
58.0	SALMACINA SP. A	•	•	•	•	•	•	4.2	4.2
58.0	XANTHIDAE A	0.4	0.4	0.6	0.2	•	•	3.2	1.5
62.5	ARCA IMBRICATA	•	•	0.2	0.2	3.2	2.0	0.6	0.6
62.5	HIATELLA ARCTICA	2.2	0.9	0.4	0.4	1.4	1.0	•	•
62.5	OPHIOSTIGMA SP. A	4.0	2.1	•	•	•	•	•	•
62.5	POLYDORA CAECA	2.8	1.7	0.4	0.4	0.4	0.4	0.4	0.4
66.0	ANCHIALINA TYPICA	•	•	0.8	0.4	2.4	1.5	0.6	0.6
66.0	SYLLIS ALTERNATA	0.4	0.4	1.0	1.0	1.0	0.8	1.4	0.9
66.0	TURBELLARIA	0.8	0.5	0.4	0.2	1.0	0.5	1.6	0.6
72.0	AMPELISCA VADORUM	•	•	3.4	2.7	0.2	0.2	•	•
72.0	CHAMA CONGREGATA	1.6	1.2	0.2	0.2	1.6	1.6	0.2	0.2
72.0	LOIMIA MEDUSA	1.4	0.6	0.4	0.2	0.4	0.2	1.4	0.7
72.0	LYSIDICE NINETTA	1.0	1.0	0.4	0.2	1.4	0.9	0.8	0.6
72.0	MELITA APPENDICULATA	0.2	0.2	2.0	1.5	•	•	1.4	0.7
72.0	NASSARINA MINOR	1.2	0.8	•	•	1.2	0.5	1.2	1.2
72.0	PAGURUS SP.	1.4	0.7	0.2	0.2	1.6	0.9	0.4	0.4
72.0	SCHISTOMERINGOS RUDOLPHI	1.2	1.0	1.6	1.2	0.4	0.4	0.4	0.2
72.0	SYNALPHEUS TOWNSENDI	0.6	0.4	•	•	•	•	3.0	1.9
77.5	GONIADIDAE A	•	•	2.6	2.3	•	•	0.8	0.6
77.5	PARAPIONOSYLLIS SP.	0.4	0.4	•	•	•	•	3.0	3.0
82.5	AMPHARETE AMERICANA	1.0	0.8	0.2	0.2	1.0	0.5	1.0	0.3
82.5	CHEVALIA SP.	•	•	•	•	0.2	0.2	3.0	3.0
82.5	ERICHSONELLA FILIFORMIS	0.2	0.2	0.4	0.2	2.4	0.7	0.2	0.2
82.5	GAMMAROPSIS SP.	1.2	0.6	1.8	1.2	•	•	0.2	0.2
82.5	MUNIDA SP.	0.2	0.2	1.6	1.6	0.2	0.2	1.2	0.4
82.5	PERICLIMENES AMERICANUS	•	•	•	•	•	•	3.2	2.0
82.5	THOR MANNINGI	•	•	•	•	•	•	3.2	1.3
82.5	VARICORBULA OPERCULATA	1.6	1.4	0.4	0.4	1.2	0.6	•	•
89.0	HARMOTHOE SP. A	1.6	0.9	0.2	0.2	0.4	0.4	0.8	0.4
89.0	LEPTOCHELA PAPULATA	0.6	0.4	1.6	0.4	0.6	0.2	0.2	0.2
89.0	MITHRAX SP.	•	•	•	•	•	•	3.0	2.0
89.0	PARAPRIONOSPIO PINNATA	1.2	0.6	0.8	0.4	1.0	1.0	•	•
89.0	PROTODORVILLEA KEFERSTEINI	2.8	1.6	0.2	0.2	•	•	•	•
94.5	AMPHIPODA G	0.6	0.6	0.8	0.6	0.2	0.2	1.2	1.2
94.5	ARABELLA MUTANS	•	•	1.4	1.0	0.8	0.2	0.6	0.4
94.5	GASTROCHAENA HIANS	1.8	1.0	•	•	0.6	0.4	0.4	0.4
94.5	HYDROIDES SP. B	•	•	•	•	2.6	1.2	0.2	0.2
94.5	PAGURIDEA	•	•	•	•	0.8	0.5	2.0	0.5
94.5	SIPUNCULIDA A	2.2	1.0	•	•	0.4	0.4	0.2	0.2
100.0	BOTULA FUSCA	•	•	•	•	2.6	0.8	•	•
100.0	MELITIDAE A	•	•	0.6	0.4	•	•	2.0	1.0
100.0	ONUPHIS NEBULOSA	0.2	0.2	0.4	0.4	0.4	0.2	1.6	1.1
100.0	ONUPHIS PALLIDULA	•	•	2.6	0.9	•	•	•	•
100.0	SEMELE NUCULOIDES	0.6	0.6	1.0	0.3	0.8	0.8	0.2	0.2
106.0	CAPRELLA EQUILIBRA	2.4	1.7	•	•	•	•	•	•
106.0	CARPIAS BERMUDENSIS	0.6	0.4	1.8	1.1	•	•	•	•
106.0	CAULLERIELLA KILLARIENSIS	0.8	0.8	0.4	0.4	0.2	0.2	1.0	0.8
106.0	LITHOPHAGA BISULCATA	1.0	1.0	•	•	1.0	1.0	0.4	0.4
106.0	NASSARIUS ALBUS	1.0	0.3	0.4	0.2	1.0	0.8	•	•
106.0	ODONTOSYLLIS ENOPLA	0.8	0.4	•	•	0.6	0.2	1.0	0.8
106.0	PILUMNUS SP.	1.2	0.7	0.4	0.4	•	•	0.8	0.6
112.0	ASCORHYNCHUS CASTELLI	•	•	•	•	•	•	2.2	1.9

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
112.0	DIASTYLIDAE A	0.8	0.4	0.8	0.6	0.2	0.2	0.4	0.4
112.0	HEMUS CRISTULIPES	1.0	0.6	0.2	0.2	•	•	1.0	0.8
112.0	PHERUSA INFLATA	1.8	0.9	•	•	0.2	0.2	0.2	0.2
112.0	POMATOCEROS AMERICANUS	0.8	0.5	•	•	1.4	0.9	•	•
122.5	AMPHIPODA F	0.4	0.4	1.6	1.6	•	•	•	•
122.5	ASPIDOSIPHON ALBUS	1.0	0.4	0.2	0.2	0.8	0.6	•	•
122.5	BRACHYURA	•	•	•	•	0.6	0.2	1.4	0.7
122.5	CERATONEREIS SP.	0.2	0.2	0.4	0.2	0.4	0.2	1.0	0.6
122.5	CHIONE LATILIRATA	0.4	0.4	0.2	0.2	1.4	0.4	•	•
122.5	GOULDIA CERINA	0.8	0.8	•	•	0.8	0.5	0.4	0.2
122.5	HOLOTHUROIDEA	2.0	1.5	•	•	•	•	•	•
122.5	KURTZIELLA LIMONITELLA	0.6	0.4	•	•	1.4	0.7	•	•
122.5	LUMBRINERIDES ACUTA	0.2	0.2	1.2	0.7	0.2	0.2	0.4	0.2
122.5	MALDANIDAE	0.2	0.2	0.8	0.6	0.8	0.4	0.2	0.2
122.5	MESOCHAETOPTERUS SP.	0.4	0.2	0.4	0.2	0.8	0.6	0.4	0.4
122.5	MUNIDA PUSILLA	•	•	1.2	0.7	•	•	0.8	0.6
122.5	POLYDORA SP.	1.8	1.3	•	•	•	•	0.2	0.2
122.5	SPIO PETTIBONEAE	0.8	0.6	0.8	0.4	0.2	0.2	0.2	0.2
122.5	SYLLIS CORNUTA	1.2	0.4	0.4	0.4	•	•	0.4	0.2
122.5	XANTHIDAE B	•	•	0.2	0.2	0.8	0.5	1.0	0.4
135.0	AMPITHOE SP. A	•	•	1.4	1.2	•	•	0.4	0.2
135.0	ARMANDIA MACULATA	1.0	0.6	0.4	0.4	•	•	0.4	0.2
135.0	EUPHROSINE TRILOBA	0.6	0.6	•	•	•	•	1.2	0.7
135.0	MAJIDAE A	•	•	•	•	0.6	0.6	1.2	0.5
135.0	PAGURUS HENDERSONI	•	•	0.4	0.2	0.4	0.2	1.0	0.8
135.0	SCOLOPLOS SP. A	•	•	1.2	1.0	•	•	0.6	0.4
135.0	SYLLIDAE L	•	•	0.4	0.2	•	•	1.4	1.0
135.0	TEREBELLIDAE	0.4	0.4	•	•	•	•	1.4	1.0
135.0	TEREBELLIDAE C	0.2	0.2	•	•	•	•	1.6	1.4
146.0	AMPHARETE ACUTIFRONS	•	•	1.0	0.8	0.2	0.2	0.4	0.2
146.0	CARIDEA	0.2	0.2	0.4	0.4	•	•	1.0	0.4
146.0	CERATONEREIS MIRABILIS	0.2	0.2	0.2	0.2	0.2	0.2	1.0	0.0
146.0	ERICHTHONIUS BRASILIENSIS	0.2	0.2	0.6	0.2	0.4	0.2	0.4	0.2
146.0	GLYCERA CAPITATA	•	•	0.2	0.2	0.2	0.2	1.2	0.7
146.0	GLYCERA TESSELATA	0.6	0.4	•	•	0.6	0.4	0.4	0.4
146.0	MITRELLA LUNATA	1.4	1.0	0.2	0.2	•	•	•	•
146.0	NEPHTYS SQUAMOSA	0.8	0.4	0.4	0.2	•	•	0.4	0.2
146.0	PERICLIMENES SP.	•	•	0.6	0.6	•	•	1.0	0.5
146.0	PHYLLOCARIDA	0.4	0.4	•	•	0.2	0.2	1.0	1.0
146.0	PHYLLODOCIDAE	0.2	0.2	•	•	0.6	0.6	0.8	0.4
146.0	PRIONOSPIO CIRRIFERA	0.6	0.6	0.4	0.4	•	•	0.6	0.4
146.0	THYONE PSEUDOFUSUS	1.2	1.2	•	•	0.2	0.2	0.2	0.2
160.5	ALPHEUS NORMANNI	0.4	0.2	•	•	0.2	0.2	0.8	0.6
160.5	AMPELISCA CRISTOIDES	0.4	0.2	0.6	0.4	0.2	0.2	0.2	0.2
160.5	ANOPLODACTYLUS PETIOLATUS	0.4	0.2	0.2	0.2	0.8	0.6	•	•
160.5	ARCA ZEBRA	1.2	0.7	•	•	•	•	0.2	0.2
160.5	EUNICIDAE	•	•	1.0	0.8	0.2	0.2	0.2	0.2
160.5	HETEROCRYPTA GRANULATA	1.4	1.2	•	•	•	•	•	•
160.5	JAEROPSIS CORALICOLA	1.4	0.9	•	•	•	•	•	•
160.5	LEMBOS UNICORNIS	0.6	0.4	0.4	0.4	0.4	0.4	•	•
160.5	LEUCOTHOE SP. A	0.2	0.2	•	•	0.2	0.2	1.0	0.6
160.5	LUMBRINERIOPSIS PARADOXA	•	•	1.2	0.8	•	•	0.2	0.2
160.5	LYONSIA SP. *	1.4	1.2	•	•	•	•	•	•
160.5	MARGINELLA HARTLEYANUM	0.2	0.2	1.0	0.8	0.2	0.2	•	•
160.5	NEMATONEREIS SP.	1.0	0.6	0.2	0.2	0.2	0.2	•	•

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
150.5	OPHIUROIDEA	1.2	0.4					0.2	0.2
160.5	SYLLIS FERRUGINA							1.4	1.0
160.5	TANYSTYLIDAE A			1.0	0.8			0.4	0.4
179.0	AONIDES MAYAGUEZENSIS	0.2	0.2	0.2	0.2			0.8	0.5
179.0	AXIOTHELLA MUCOSA	0.4	0.4	0.4	0.2			0.4	0.2
179.0	CAPITELLIDAE	0.4	0.2	0.2	0.2	0.2	0.2	0.4	0.2
179.0	COLOMASTIX SP.	0.6	0.2			0.8	0.6	0.4	0.2
179.0	DIODORA CAYENENSIS			0.2	0.2			0.6	0.6
179.0	GALATHEA ROSTRATA							1.0	0.6
179.0	GONEPLACIDAE A					0.4	0.2	0.8	0.8
179.0	GREGARIELLA CORALLIOPHAGA							1.2	1.2
179.0	LYSIANASSIDAE A					0.6	0.6		
179.0	MARGINELLA LAVALLEEANA	0.6	0.6			0.4	0.2		
179.0	OSTRACODA	0.6	0.4	0.2	0.2	0.4	0.2	0.8	0.4
179.0	PELIA MUTICA			0.2	0.2	1.0	0.5		
179.0	PLEUROMERIS TRIDENTATA	1.2	0.8					0.4	0.2
179.0	POLYDORA TETRABRANCHIA	0.2	0.2	0.6	0.4			0.2	0.2
179.0	PRIONOSPIO CRISTATA			0.6	0.4	0.4	0.2		
179.0	PSEUDEURYTHOE AMBIGUA			0.6	0.6	0.6	0.2		
179.0	PSEUDOMEDAEUS AGASSIZII	0.4	0.4			0.8	0.4		
179.0	SICYONIA LAEVIGATA	0.4	0.2	0.2	0.2			0.6	0.6
179.0	SYLLIS GRACILIS	0.4	0.2			0.2	0.2	0.6	0.4
179.0	TRYPANOSYLLIS ZEBRA	0.6	0.4	0.4	0.2			0.2	0.2
179.0	WEBSTERINEREIS TRIDENTATA			0.4	0.4			0.8	0.4
200.5	ACANTHOHAUSTORIUS BOUSFIELDI					0.2	0.2	0.4	0.4
200.5	ALPHEUS SP.			0.2	0.2	0.6	0.4	0.4	0.4
200.5	ANCISTROSYLLIS RIGIDA	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2
200.5	BATRACHONOTUS FRAGOSUS	0.2	0.2	0.2	0.2	0.2	0.2	0.6	0.4
200.5	BODOTRIIDAE D	0.6	0.4	0.4	0.4			1.0	0.4
200.5	CHAETOZONE SETOSA					0.2	0.3		
200.5	CUMACEA	0.4	0.4			0.8	0.4	0.6	0.4
200.5	DROMIDIA ANTILLENSIS	0.2	0.2			0.2	0.2		
200.5	LEPTOCHELIA SP.	0.2	0.2			0.4	0.4	0.6	0.6
200.5	LYONSIA SP.	0.2	0.2			0.4	0.4	0.4	0.2
200.5	MAGELONA SP. A	0.6	0.4	0.6	0.4	0.4	0.4		
200.5	MODIOLUS AMERICANUS	0.2	0.2	0.4	0.2			0.4	0.2
200.5	MUSCULUS LATERALIS	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2
200.5	NYMPHOPSIS DUODORSOSPINOSA	0.2	0.2	0.2	0.2	0.6	0.4	0.4	0.4
200.5	PHYLLODOCE LONGIPES	0.2	0.2	0.6	0.4	0.4	0.4	0.4	0.2
200.5	PODARKE OBSCURA	0.2	0.2	0.4	0.2	0.4	0.4	0.4	0.2
200.5	PROCERAEA SP.	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2
200.5	SEROLIS MGRAYI	0.6	0.4	0.4	0.4	0.6	0.6	0.4	0.4
200.5	SICYONIA SP.	1.0	0.5						
200.5	SPIONIDAE	0.8	0.6	0.2	0.2				
200.5	SYNCHELIDIUM AMERICANUM	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4
200.5	TANAIDACEA B			0.4	0.2	0.4	0.2		
233.5	ACCALATHURA CRENULATA	0.2	0.2			0.6	0.2		
233.5	ACTEON CANDENS	0.6	0.6	0.2	0.2				
233.5	AMPHIPODA B			0.8	0.8				
233.5	AMYGDALUM SAGITTATUM								
233.5	ANAMIXIS SP.	0.4	0.2	0.2	0.2	0.2	0.2	0.8	0.8
233.5	ASTROPECTEN SP.					0.8	0.6		
233.5	BARLEETA SP. *			0.8	0.4				
233.5	ENCOPE SP.					0.4	0.2	0.4	0.2
233.5	EUNICE FILAMENTOSA								

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
233.5	EURYDICE LITTORALIS	•	•	0.4	0.2	0.2	0.2	0.2	0.2
233.5	GLYCERA SP. B	0.2	0.2	0.6	0.2	•	•	•	•
233.5	GONIADA MACULATA	•	•	0.8	0.8	•	•	•	•
233.5	HYDROIDES SP. A	0.2	0.2	•	•	0.6	0.4	•	•
233.5	LATREUTES PARVULUS	0.6	0.4	0.2	0.2	•	•	•	•
233.5	LIMA PELLUCIDA	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
233.5	LITHOPHAGA ARISTATA	0.4	0.4	•	•	0.2	0.2	0.2	0.2
233.5	LUCAPINELLA LIMATULA	0.8	0.6	•	•	•	•	•	•
233.5	LYONSIA BEANA	0.4	0.4	•	•	0.2	0.2	0.2	0.2
233.5	MAERA CAROLINIANA	•	•	•	•	•	•	0.8	0.8
233.5	MAJIDAE	•	•	0.2	0.2	0.2	0.2	0.4	0.2
233.5	MELPHIDIPPIDAE A	0.2	0.2	•	•	•	•	0.6	0.6
233.5	MICROPHRYS ANTILLENSIS	0.8	0.6	•	•	•	•	•	•
233.5	MITHRAX PLEURACANTHUS	0.2	0.2	0.2	0.2	•	•	0.4	0.4
233.5	MUSCULUS SP. *	0.8	0.8	•	•	•	•	•	•
233.5	NEMATONEREIS SP. A	•	•	•	•	0.4	0.4	0.4	0.2
233.5	NEMERTINEA E	0.2	0.2	•	•	•	•	0.6	0.4
233.5	NEREIDAE	0.6	0.4	•	•	•	•	0.2	0.2
233.5	NOTOMASTUS LATERICEUS	0.2	0.2	0.2	0.2	0.4	0.2	•	•
233.5	OCNUS PYGMAEUS	0.6	0.6	•	•	0.2	0.2	•	•
233.5	OLIGOCHAETA	0.4	0.4	0.2	0.2	•	•	0.2	0.2
233.5	PALICUS SP.	0.6	0.4	0.2	0.2	•	•	•	•
233.5	PELECYPODA A	0.4	0.2	0.4	0.4	•	•	•	•
233.5	PELECYPODA B	0.6	0.4	0.2	0.2	•	•	•	•
233.5	PENAEOIDEA	•	•	•	•	•	•	0.8	0.5
233.5	PISIONE REMOTA	•	•	0.6	0.4	•	•	0.2	0.2
233.5	PODOCHELA SP.	•	•	0.2	0.2	0.6	0.6	•	•
233.5	POLYDORA SP. D	0.8	0.8	•	•	0.6	0.6	0.2	0.2
233.5	PSEUDOVERMILIA OCCIDENTALIS	•	•	•	•	•	•	0.2	0.2
233.5	SCOLOPLOS RUBRA	0.6	0.4	•	•	•	•	0.2	0.2
233.5	SIPUNCULIDA E	0.6	0.2	•	•	•	•	•	•
233.5	SUBADYTE PELLUCIDA	0.2	0.2	0.2	0.2	0.4	0.2	•	•
233.5	SYLLIS SP. G	0.8	0.6	•	•	•	•	0.8	0.6
233.5	SYLLIS SP. I	•	•	•	•	0.2	0.2	0.6	0.4
233.5	XANTHIDAE	•	•	•	•	•	•	0.4	0.2
283.5	AMPHILOCHUS SP.	0.2	0.2	•	•	•	•	•	•
283.5	AMPITHOIDAE A	0.2	0.2	0.4	0.4	•	•	•	•
283.5	APSEUDES SP. B	0.4	0.4	0.2	0.2	•	•	0.6	0.6
283.5	ASTACILLA SP. A	•	•	•	•	•	•	0.6	0.4
283.5	AUTOMATE EVERMANNI	0.4	0.2	0.2	0.2	•	•	•	•
283.5	BODOTRIIDAE B	•	•	0.4	0.2	•	•	0.2	0.2
283.5	CAPITELLIDAE A	•	•	•	•	•	•	0.6	0.6
283.5	CAPITELLIDAE D	•	•	•	•	•	•	0.4	0.2
283.5	CERATONEREIS SP. A	0.2	0.2	•	•	0.6	0.4	•	•
283.5	CHAETOPTERIDAE	•	•	•	•	0.6	0.6	•	•
283.5	CHAMA MACEROPHYLLA	•	•	•	•	0.2	0.2	0.4	0.4
283.5	CHLAMYS BENEDICTI	•	•	•	•	0.6	0.4	•	•
283.5	CIRRATULIDAE	•	•	0.4	0.4	•	•	0.2	0.2
283.5	CORBULA CONTRACTA	0.2	0.2	•	•	0.6	0.4	•	•
283.5	COROPHIIDAE	0.4	0.4	•	•	•	•	0.2	0.2
283.5	CRENELLA DECUSSATA	•	•	0.4	0.4	•	•	•	•
283.5	DIASTYLIDAE	0.6	0.6	•	•	0.4	0.4	•	•
283.5	DIPLODONTA NUCLEIFORMIS	0.2	0.2	•	•	•	•	0.6	0.6
283.5	ERATO MAUGERIAE	•	•	•	•	•	•	•	•
283.5	ETHUSA MASCARONE AMERICANA	•	•	•	•	•	•	•	•

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
283.5	GEUKENSIA DEMISSA	0.6	0.2						
283.5	GONODACTYLUS BREDINI	0.4	0.4					0.2	0.2
283.5	HIPPOLYTIDAE							0.6	0.6
283.5	HIPPOMEDON SP. A			0.6	0.4				
283.5	HYBOSCOLEX LONGISETA	0.4	0.2			0.2	0.2		
283.5	LAONICE CIRRATA	0.4	0.2					0.2	0.2
283.5	LEMBOS SP.							0.6	0.6
283.5	LEPTOGNATHIIDAE A	0.2	0.2			0.2	0.2	0.2	0.2
283.5	LEUCOTHOIDES POTTSI							0.6	0.6
283.5	LYSIANOPSIS ALBA			0.2	0.2			0.4	0.2
283.5	MANGELIA RUGIRIMA	0.2	0.2			0.2	0.2	0.2	0.2
283.5	MARGINELLA ROSCIDA			0.4	0.2	0.2	0.2		
283.5	MUREX FLORIFER DILECTUS					0.6	0.6		
283.5	NEREIS SP.					0.2	0.2	0.4	0.2
283.5	NEREIS SUCCINEA			0.6	0.6				
283.5	NOTOMASTUS AMERICANUS			0.6	0.6				
283.5	OPHELIA DENTICULATA							0.6	0.4
283.5	PARAONIDAE			0.6	0.6				
283.5	PELECYPODA C	0.2	0.2			0.4	0.4		
283.5	PERICLIMENES IRIDESCENS							0.6	0.4
283.5	PHYLLODOCE SP.					0.4	0.2	0.2	0.2
283.5	PILUMNUS SAYI	0.2	0.2			0.2	0.2	0.2	0.2
283.5	PINNOTHERIDAE			0.2	0.2	0.2	0.2	0.2	0.2
283.5	POLYCIRRUS EXIMIUS DUBIUS	0.2	0.2					0.4	0.2
283.5	PONTOGENIA SERICOMA	0.4	0.2			0.2	0.2		
283.5	PORTUNUS SP.	0.2	0.2	0.2	0.2			0.2	0.2
283.5	PROCESSA SP.							0.6	0.2
283.5	SEMELE PURPURASCENS					0.2	0.2	0.4	0.4
283.5	SIPUNCULIDA B			0.6	0.6				
283.5	SPIO SP.	0.4	0.2					0.2	0.2
283.5	SYLLIDAE C	0.4	0.4					0.2	0.2
283.5	SYLLIDAE I	0.4	0.2			0.2	0.2		
283.5	SYLLIS SP. F	0.4	0.2	0.2	0.2				
283.5	TRACHYCARIS RESTRICTUS							0.6	0.4
283.5	VERTICORDIA ORNATA	0.4	0.4	0.2	0.2				
283.5	WEBSTERINEREIS SP. A							0.6	0.6
353.5	ACANTHOCHITONA PYGMAEA	0.4	0.4						
353.5	AEGIDAE A			0.2	0.2	0.2	0.2		
353.5	ALPHEUS SP. B							0.4	0.2
353.5	AMPHIPODA E	0.2	0.2			0.2	0.2		
353.5	ARBACIA PUNCTULATA	0.4	0.4						
353.5	ARICIDEA CERRUTI	0.4	0.4						
353.5	ASTHENOTHAERUS HEMPHILLI *					0.4	0.2		
353.5	ATYS SANDERSONI	0.4	0.4						
353.5	BODOTRIIDAE A	0.2	0.2	0.2	0.2				
353.5	BRACHYCYTHARA BARBARAE LYONS	0.4	0.4						
353.5	CADULUS QUADRIDENTATUS					0.4	0.2		
353.5	CAPITELLA CAPITATA	0.2	0.2	0.2	0.2				
353.5	CERADOCUS SP.	0.2	0.2						
353.5	CERATONEREIS VERSIPEDATA							0.2	0.2
353.5	CHAETOPTERUS VARIOPEDATUS	0.4	0.4					0.4	0.4
353.5	CHIONE CANCELLATA	0.2	0.2	0.2	0.2				
353.5	CYCLOPECTEN NANUS			0.4	0.2				
353.5	DENTALIIDAE *	0.4	0.2						
353.5	DIPLODONTA PUNCTATA	0.2	0.2			0.2	0.2		

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
353.5	DROMIIDAE	.	.	0.2	0.2	.	.	0.2	0.2
353.5	EBALIA CARIOSA	.	.	.	.	.	.	0.4	0.4
353.5	EBALIA STIMPSONI	.	.	.	.	.	.	0.4	0.4
353.5	ENGINA TURBINELLA	0.2	0.2	.	.	0.2	0.2	.	.
353.5	EUCIDARIS TRIBULOIDES	.	.	.	.	0.2	0.2	0.2	0.2
353.5	EUNICE ANTENNATA	0.4	0.4	.	.	.	.	.	.
353.5	GASTROPODA A	0.2	0.2	0.2	0.2	.	.	.	.
353.5	GLYCERA PAPILLOSA	0.2	0.2	.	.	.	.	0.2	0.2
353.5	HAPLOSCOLOPLOS ROBUSTUS	0.4	0.2	.	.	.	.	.	.
353.5	HESIONIDAE	0.2	0.2	.	.	.	.	0.2	0.2
353.5	HIPPOLYTIDAE *	0.4	0.4	.	.	.	.	.	.
353.5	HYALINA AVENA	.	.	0.4	0.4	.	.	.	.
353.5	HYDROIDES UNCINATA	0.4	0.4	.	.	.	.	.	.
353.5	INACHOIDES FORCEPS	0.2	0.2	0.2	0.2	.	.	.	.
353.5	INACHOIDES FORCEPS *	.	.	.	.	.	.	0.4	0.4
353.5	ISCHNOCHITONIDAE A	0.4	0.4	.	.	.	.	.	.
353.5	LUMBRINERIS SP.	0.4	0.4	.	.	.	.	.	.
353.5	LUMBRINERIS COCCINEA	0.4	0.4	.	.	.	.	.	.
353.5	LUMBRINERIS LATREILLI	.	.	0.2	0.2	.	.	0.2	0.2
353.5	LYONSIA HYALINA	.	.	0.4	0.4	.	.	.	.
353.5	MAERA SP. A	0.2	0.2	.	.	0.2	0.2	.	.
353.5	MAERA WILLIAMSI	.	.	.	.	.	.	0.4	0.2
353.5	MICROPANOPE SCULPTIPES	.	.	.	.	.	.	0.4	0.2
353.5	MYSIDACEA	0.4	0.2	.	.	.	.	.	.
353.5	NANOPLAX XANTHIFORMIS	.	.	.	.	.	.	0.4	0.2
353.5	NEREIS ACUMINATA	0.4	0.2	.	.	.	.	.	.
353.5	NICOMACHE TRISPINATA	.	.	.	.	0.4	0.4	.	.
353.5	OPHIOCNIDA SCABRIUSCULA	0.4	0.4	.	.	.	.	.	.
353.5	OPHIOPHRAGMUS SP.	.	.	.	.	0.4	0.4	.	.
353.5	OPISTHOBRANCHIA *	0.4	0.2	.	.	.	.	.	.
353.5	PARAPINNIXA BOUVIERI	.	.	.	.	0.2	0.2	0.2	0.2
353.5	PARAPIONOSYLLIS LONGICIRRATA	0.4	0.4	.	.	.	.	.	.
353.5	PELECYPODA	.	.	0.4	0.2	.	.	.	.
353.5	PENAEIDAE	.	.	.	.	0.4	0.4	.	.
353.5	PERICLIMENAEUS SP.	.	.	.	.	.	.	0.4	0.2
353.5	PHERUSA EHLERSI	.	.	0.2	0.2	.	.	0.2	0.2
353.5	PISTA QUADRILOBATA	0.4	0.4	.	.	.	.	.	.
353.5	POECILOCHAETUS SP.	.	.	0.2	0.2	.	.	0.2	0.2
353.5	POTAMILLA RENIFORMIS	.	.	.	.	0.4	0.4	.	.
353.5	PROCESSA HEMPHILLI *	.	.	.	.	.	.	0.4	0.4
353.5	PSEUDOCHAMA RADIANS	0.2	0.2	0.2	0.2	.	.	.	.
353.5	PSEUDOMEDAEUS AGASSIZII *	.	.	.	.	0.4	0.4	.	.
353.5	PTEROMERIS PERPLANA	.	.	.	.	0.4	0.2	.	.
353.5	PYRUNCULUS CAELATUS	.	.	0.4	0.4	.	.	.	.
353.5	RILDARDANUS LAMINOSA	.	.	.	.	0.2	0.2	0.2	0.2
353.5	SCOLELEPIS SP. B	.	.	.	.	.	.	0.4	0.2
353.5	SEMELE BELLASTRIATA	.	.	0.2	0.2	0.2	0.2	.	.
353.5	SPEOCARCINUS CAROLINENSIS	.	.	.	.	.	.	0.4	0.4
353.5	SPHAERODORIDIUM CLAPAREDII	0.4	0.4	.	.	.	.	.	.
353.5	SPIO SP. A	0.4	0.2	.	.	.	.	.	.
353.5	STHENELAIS BOA	.	.	.	.	0.2	0.2	0.2	0.2
353.5	STROMBIFORMIS BILINEATUS	.	.	.	.	0.4	0.2	.	.
353.5	SUTUROGLYPTA IONTHA	0.2	0.2	.	.	.	.	0.2	0.2
353.5	SYLLIDAE D	0.2	0.2	0.2	0.2	.	.	.	.
353.5	SYLLIDAE N	.	.	.	.	0.2	0.2	0.2	0.2

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
353.5	SYNALPHEUS SP.							0.4	0.4
353.5	SYNELMIS ALBINI	0.2	0.2					0.2	0.2
353.5	TEREBELLIDAE A			0.2	0.2	0.2	0.2		
353.5	THARYX MARIONI	0.4	0.2						
353.5	TIRON TROPAKIS			0.4	0.4				
353.5	TRAVISIA PARVA			0.2	0.2	0.2	0.2		
353.5	TRICHOPHOXUS FLORIDANUS	0.2	0.2			0.2	0.2		
353.5	TRIVIA MALTBIANA							0.4	0.2
353.5	TURBONILLA ABRUPTA	0.4	0.4						
353.5	TURBONILLA INTERRUPTA			0.2	0.2	0.2	0.2		
496.5	ALPHEIDAE							0.2	0.2
496.5	AMBLYOSYLLIS FORMOSA					0.2	0.2		
496.5	AMERICARDIA MEDIA					0.2	0.2		
496.5	AMPHILOCHIDAE							0.2	0.2
496.5	AMPHIURA FIBULATA							0.2	0.2
496.5	AMYGDALUM PAPYRIUM			0.2	0.2				
496.5	ANACHIS LAFRESNAYI							0.2	0.2
496.5	ANOMIA SIMPLEX					0.2	0.2		
496.5	ANOPLODACTYLUS INSIGNIS							0.2	0.2
496.5	APANTHURA MAGNIFICA					0.2	0.2		
496.5	ARCIDAE *	0.2	0.2						
496.5	ARCOPSIS ADAMSI							0.2	0.2
496.5	ARENE TRICARINATA	0.2	0.2						
496.5	ASTACILLA LAUFFI					0.2	0.2		
496.5	ASTHENOTHAERUS HEMPHILLI					0.2	0.2		
496.5	AUSTRAEOLIS CATINA					0.2	0.2		
496.5	BARBATIA DOMINGENSIS	0.2	0.2						
496.5	BERGHIA SP.							0.2	0.2
496.5	BODOTRIIDAE			0.2	0.2				
496.5	BODOTRIIDAE C	0.2	0.2						
496.5	CADULUS TETRASCHISTUS	0.2	0.2						
496.5	CAECUM COOPERI	0.2	0.2						
496.5	CALOCARIS HIRSUTIMANA							0.2	0.2
496.5	CAPITELLIDAE B							0.2	0.2
496.5	CAPITELLIDAE E			0.2	0.2				
496.5	CAPITELLIDAE G							0.2	0.2
496.5	CERAPUS TUBULARIS			0.2	0.2				
496.5	CERITHIOPSIS METAXAE TAENIOLATA	0.2	0.2						
496.5	CERITHIUM ATRATUM					0.2	0.2		
496.5	CHAETOPLEURA APICULATA							0.2	0.2
496.5	CHAMA SP.					0.2	0.2		
496.5	CHRYSOPETALIDAE	0.2	0.2						
496.5	CIROLANA PARVA							0.2	0.2
496.5	CIRRATULUS SP.			0.2	0.2				
496.5	CIRRATULUS SP. A	0.2	0.2						
496.5	CIRRIFORMIA FILIGERA							0.2	0.2
496.5	CLYPEASTER SP.					0.2	0.2		
496.5	COLOMASTIX SP. B			0.2	0.2				
496.5	CRENELLA DIVARICATA			0.2	0.2				
496.5	CREPIDULA ACULEATA							0.2	0.2
496.5	CRONIUS SP.	0.2	0.2						
496.5	CRONIUS RUBER			0.2	0.2				
496.5	CUMINGIA TELLINOIDES			0.2	0.2				
496.5	CYCLOPECTEN NANUS *	0.2	0.2						
496.5	DELECTOPECTEN SP. *	0.2	0.2						

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
496.5	DENTALIUM OCCIDENTALE	•	•	•	•	•	•	0.2	0.2
496.5	DENTALIUM OCCIDENTALE *	0.2	0.2	•	•	•	•	•	•
496.5	DIODORA LISTERI	•	•	•	•	•	•	0.2	0.2
496.5	DIODORA LISTERI *	•	•	•	•	0.2	0.2	•	•
496.5	DIOPATRA TRIDENTATA	0.2	0.2	•	•	•	•	•	•
496.5	DONDICE OCCIDENTALIS	0.2	0.2	•	•	•	•	•	•
496.5	ELASMOPUS SP. D	•	•	0.2	0.2	•	•	•	•
496.5	EULALIA SP.	0.2	0.2	•	•	•	•	•	•
496.5	EULALIA MACROCEROS	•	•	0.2	0.2	•	•	•	•
496.5	EUNICE SP.	•	•	•	•	•	•	0.2	0.2
496.5	EUNICE SP. B	0.2	0.2	•	•	•	•	•	•
496.5	EURYDICE PIPERATA	•	•	•	•	0.2	0.2	•	•
496.5	FLABELLIGERA SP.	•	•	•	•	0.2	0.2	•	•
496.5	GASTROPODA E	0.2	0.2	•	•	•	•	•	•
496.5	GLOTTIDIA PYRAMIDATA	•	•	•	•	0.2	0.2	•	•
496.5	GLYCERA SP. C	0.2	0.2	•	•	•	•	•	•
496.5	GLYCYMERIS SP. *	0.2	0.2	•	•	•	•	•	•
496.5	GONIADIDES CAROLINAE	0.2	0.2	•	•	•	•	•	•
496.5	HARMOTHOE SP.	•	•	•	•	0.2	0.2	•	•
496.5	HESIONURA SP. A	•	•	•	•	•	•	0.2	0.2
496.5	HYALINA ALBOLINEATA	•	•	•	•	0.2	0.2	•	•
496.5	HYDROIDES SP. D	0.2	0.2	•	•	•	•	•	•
496.5	HYPSICOMUS PHAEOTAENIA	0.2	0.2	•	•	•	•	•	•
496.5	IRIDOPAGURUS DISPAR	•	•	•	•	0.2	0.2	•	•
496.5	KURTZIELLA ATROSTYLA	0.2	0.2	•	•	•	•	•	•
496.5	LASAEIDAE	•	•	•	•	•	•	0.2	0.2
496.5	LEIOCHRIDES PALLIDIOR	0.2	0.2	•	•	•	•	•	•
496.5	LEPTOCHELA SP.	•	•	•	•	•	•	0.2	0.2
496.5	LILJEBORGIA SP. A	•	•	0.2	0.2	•	•	•	•
496.5	LILJEBORGIA SP. B	•	•	•	•	•	•	0.2	0.2
496.5	LIMEA BRONNIANA	•	•	•	•	0.2	0.2	•	•
496.5	LINGA AMIANTUS	0.2	0.2	•	•	•	•	•	•
496.5	LISSA BICARINATA	•	•	•	•	0.2	0.2	•	•
496.5	LUCIFER FAXONI	•	•	•	•	0.2	0.2	•	•
496.5	LUCINA NASSULA	•	•	•	•	•	•	0.2	0.2
496.5	LYROPECTEN SP. *	•	•	0.2	0.2	•	•	•	•
496.5	LYSIANASSIDAE	0.2	0.2	•	•	•	•	•	•
496.5	LYSMATA SP. *	•	•	•	•	0.2	0.2	•	•
496.5	MACROCALLISTA MACULATA	•	•	0.2	0.2	•	•	•	•
496.5	MACROCOELOMA SP. *	•	•	•	•	•	•	0.2	0.2
496.5	MACROCOELOMA CAMPTOCERUM	•	•	•	•	0.2	0.2	•	•
496.5	MACROCOELOMA TRISPINOSUM	•	•	•	•	0.2	0.2	•	•
496.5	MARGINELLA SP.	•	•	•	•	0.2	0.2	•	•
496.5	MARGINELLA SP. *	0.2	0.2	•	•	•	•	•	•
496.5	MARGINELLA AUREOCINCTA	•	•	•	•	0.2	0.2	•	•
496.5	MARGINELLA VIRGINIANA	0.2	0.2	•	•	•	•	•	•
496.5	MARGINELLIDAE *	0.2	0.2	•	•	•	•	•	•
496.5	MEGALOBRACHIUM SORIATUM	•	•	•	•	•	•	0.2	0.2
496.5	MESORHOEA SEXSPINOSA	•	•	0.2	0.2	•	•	•	•
496.5	MICRODEUTOPUS MYERSI	•	•	0.2	0.2	•	•	•	•
496.5	MICROPANOPE SP.	0.2	0.2	•	•	•	•	•	•
496.5	MICROPANOPE NUTTINGI	•	•	•	•	•	•	0.2	0.2
496.5	MICROPHRYS SP.	0.2	0.2	•	•	•	•	•	•
496.5	MICROPHRYS SP. *	•	•	•	•	0.2	0.2	•	•
496.5	MODIOLUS MODIOLUS SQUAMOSUS	0.2	0.2	•	•	•	•	•	•

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
496.5	MUNIDA IRRASA *	0.2	0.2	.	.	.	.	.	.
496.5	MUSCULUS NIGER	.	.	.	.	0.2	0.2	.	.
496.5	NAINERIS SP.	0.2	0.2	.	.	.	.	.	.
496.5	NANNOSQUILLA SP. A	.	.	0.2	0.2	.	.	.	.
496.5	NATICA SP. A	.	.	0.2	0.2	.	.	.	.
496.5	NEMERTINEA C	.	.	.	.	0.2	0.2	.	.
496.5	NEOPONTONIDES BEAUFORTENSIS	.	.	.	.	0.2	0.2	.	.
496.5	NEPHTYS INCISA	0.2	0.2	.	.	.	.	.	.
496.5	NOTOBRYON WARDI	0.2	0.2	.	.	0.2	0.2	.	.
496.5	NOTOCIRRUS SPINIFERUS	.	.	.	.	.	.	0.2	0.2
496.5	NOTOMASTUS HEMIPODUS	.	.	.	.	.	.	0.2	0.2
496.5	NOTOMASTUS LOBATUS	.	.	.	.	.	.	0.2	0.2
496.5	NYMPHONIDAE A	.	.	.	.	0.2	0.2	.	.
496.5	NYMPHOPSIS SP. A	.	.	.	.	0.2	0.2	.	.
496.5	OLIVELLA BULLULA	.	.	0.2	0.2	.	.	.	.
496.5	ONUPHIS SP.	.	.	.	.	.	.	0.2	0.2
496.5	ONUPHIS EREMITA	.	.	.	.	0.2	0.2	.	.
496.5	OPALIA PUMILIO	0.2	0.2	.	.	.	.	.	.
496.5	OPHELIIDAE	.	.	0.2	0.2	.	.	.	.
496.5	OPHIOLEPIS ELEGANS	0.2	0.2	.	.	.	.	.	.
496.5	OPHIONEREIS RETICULATA	.	.	.	.	.	.	0.2	0.2
496.5	OPHIOSTIGMA SP.	.	.	.	.	.	.	0.2	0.2
496.5	OPHIUROIDEA A	0.2	0.2	.	.	.	.	.	.
496.5	ORBINIIDAE	0.2	0.2	.	.	.	.	.	.
496.5	ORBINIIDAE B	0.2	0.2	.	.	.	.	.	.
496.5	ORCHOMENE SP. A	.	.	.	.	0.2	0.2	.	.
496.5	OSACHILA TUBEROSA	.	.	.	.	.	.	0.2	0.2
496.5	OXYUROSTYLIS SMITHI	.	.	.	.	.	.	0.2	0.2
496.5	PAGURISTES TORTUGAE	.	.	.	.	0.2	0.2	.	.
496.5	PAGURUS HENDERSONI *	.	.	.	.	0.2	0.2	.	.
496.5	PANANTHURA FORMOSA	.	.	.	.	0.2	0.2	.	.
496.5	PAPYRIDEA SEMISULCATA	.	.	.	.	0.2	0.2	.	.
496.5	PAREULEPIS SP.	.	.	0.2	0.2	.	.	.	.
496.5	PARTHENOPE FRATERCULUS	.	.	.	.	0.2	0.2	.	.
496.5	PARVITURBOIDES INTERRUPTUS	0.2	0.2	.	.	.	.	.	.
496.5	PERICLIMENES SP. *	.	.	0.2	0.2	.	.	.	.
496.5	PHIDIANA LYNCEUS	0.2	0.2	.	.	.	.	.	.
496.5	PHORONIS ARCHITECTA	.	.	0.2	0.2	.	.	.	.
496.5	PHTISICA MARINA	0.2	0.2	.	.	.	.	.	.
496.5	PHYLLODOCE ARENAE	.	.	.	.	.	.	0.2	0.2
496.5	PHYLLODOCE CASTANEA	.	.	.	.	0.2	0.2	.	.
496.5	PHYLLODOCIDAE C	.	.	0.2	0.2	.	.	.	.
496.5	PILUMNUS DASYPODUS	.	.	0.2	0.2	.	.	.	.
496.5	PINNIXA SP.	.	.	0.2	0.2	.	.	.	.
496.5	PINNOTHERES MACULATUS *	.	.	.	.	0.2	0.2	.	.
496.5	PISANIA TINCTA	.	.	0.2	0.2	.	.	.	.
496.5	PITHO LHERMINIERI	.	.	.	.	.	.	0.2	0.2
496.5	PLICATULA GIBBOSA	.	.	.	.	.	.	0.2	0.2
496.5	PODOCHELA GRACILIPES	.	.	.	.	0.2	0.2	.	.
496.5	POLYCHAETA F	.	.	.	.	0.2	0.2	.	.
496.5	POLYDORA SP. C	0.2	0.2	.	.	.	.	.	.
496.5	POLYDORA SP. E	0.2	0.2	.	.	.	.	.	.
496.5	POLYNOIDAE A	.	.	.	.	.	.	0.2	0.2
496.5	POLYPLACOPHORA A	.	.	.	.	0.2	0.2	.	.
496.5	PORTUNIDAE	.	.	.	.	.	.	0.2	0.2

Appendix 3. (Continued)

STATION MS06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
496.5	PORTUNUS ORDWAYI							0.2	0.2
496.5	PORTUNUS ORDWAYI *	0.2	0.2						
496.5	PSAMMOLYCE CTENIDOPHORA			0.2	0.2				
496.5	PYLOPAGURUS SP. *			0.2	0.2				
496.5	PYLOPAGURUS HOLTHUISI							0.2	0.2
496.5	RISSOINA SP. A	0.2	0.2						
496.5	RUDILEMBOIDES NAGLEI			0.2	0.2				
496.5	SABELLARIIDAE							0.2	0.2
496.5	SABELLIDAE					0.2	0.2		
496.5	SALMONEUS ORTMANNI *							0.2	0.2
496.5	SCALIBREGMA INFLATUM					0.2	0.2		
496.5	SIPUNCULIDA C					0.2	0.2		
496.5	SPATANGOIDEA	0.2	0.2						
496.5	SPELOEOPHORUS NODOSUS							0.2	0.2
496.5	SPIONIDAE B			0.2	0.2				
496.5	SPIROGLYPTUS IRREGULARIS	0.2	0.2						
496.5	SQUILLA HEPTACANTHA							0.2	0.2
496.5	STENOCIONOPS FURCATA COELATA	0.2	0.2						
496.5	STENOPLEUSTES SP. A	0.2	0.2						
496.5	STENORHYNCHUS SETICORNIS	0.2	0.2						
496.5	STENOTHOE SP. A			0.2	0.2				
496.5	STHENELAIS SP.			0.2	0.2				
496.5	SYLLIDAE K	0.2	0.2						
496.5	SYLLIDES SP.	0.2	0.2						
496.5	SYLLIS SP.	0.2	0.2						
496.5	SYLLIS SP. B			0.2	0.2				
496.5	SYLLIS SP. E	0.2	0.2						
496.5	SYNALPHEUS MINUS					0.2	0.2		
496.5	SYNAPTIDAE			0.2	0.2				
496.5	TELLINA SP.	0.2	0.2						
496.5	TELLINA SYBARITICA					0.2	0.2		
496.5	THALENESSA SP. A							0.2	0.2
496.5	TRACHYPENAEUS CONSTRICTUS	0.2	0.2						
496.5	TRICHOBRANCHUS GLACIALIS	0.2	0.2						
496.5	TRICHOPHOXUS EPISTOMUS	0.2	0.2						
496.5	TRICULIA THALLASSICOLA					0.2	0.2		
496.5	TRIVIA CANDIDULA							0.2	0.2
496.5	TRIVIA NIX					0.2	0.2		
496.5	TRYPTON CARNEUS	0.2	0.2			0.2	0.2		
496.5	TURBONILLA HEMPHILLI							0.2	0.2
496.5	UHLIAS LIMBATUS							0.2	0.2
496.5	UNCIOLA SP.	0.2	0.2						
496.5	UNCIOLA SPICATA					0.2	0.2		
496.5	VERMILIOPSIS ANNULATA								
496.5	VEXILLUM GEMMATUM	0.2	0.2						
496.5	XANTHIDAE *	0.2	0.2						
496.5	XANTHIDAE C	0.2	0.2						

Appendix 3. (Continued)

STATION OS01

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
1.0	PISTA PALMATA	20.3	20.3	248.4	128.8	14.0	9.8	.	.
2.0	SPIOPHANES BOMBYX	17.7	16.2	48.8	18.9	11.6	7.4	5.0	1.6
3.0	ERICHTHONIUS SP. A	4.0	2.1	20.0	15.5	11.2	4.7	0.4	0.4
4.0	SYLLIS SPONGICOLA	.	.	7.6	7.6	8.0	8.0	10.0	8.0
5.0	ONUPHIS PALLIDULA	2.3	2.3	20.0	10.4	0.6	0.6	0.8	0.4
6.0	PHOTIS SP.	3.7	3.7	15.8	12.0	.	.	.	.
7.0	OWENIA FUSIFORMIS	2.0	2.0	7.4	5.5	6.0	5.8	2.2	1.0
8.0	PHOTIS LONGICAUDATA	.	.	9.6	4.1	3.0	1.7	0.8	0.5
9.0	MESOCHAETOPTERUS SP.	1.0	1.0	10.2	5.5	0.6	0.4	0.4	0.4
10.0	AMPHARETE ACUTIFRONS	1.0	1.0	1.4	0.9	6.2	4.1	3.2	1.8
11.0	CRASSINELLA LUNULATA	.	.	7.8	4.3	1.2	1.0	0.6	0.2
12.0	UNCIOLA SP. A	0.3	0.3	7.0	1.5	1.0	0.6	1.0	1.0
13.0	ONUPHIS NEBULOSA	2.0	2.0	4.8	1.8	1.2	1.0	1.0	0.3
14.0	BOWMANIELLA PORTORICENSIS	0.3	0.3	4.8	2.1	2.4	1.3	.	.
15.0	AMPELISCA VADORUM	.	.	4.8	2.0	1.4	0.6	0.8	0.5
16.0	AMPHIODIA PULCHELLA	.	.	4.6	1.3	1.2	1.0	0.6	0.2
17.0	MUNIDA PUSILLA	.	.	6.2	6.2	.	.	.	.
18.0	AMPHARETE AMERICANA	0.3	0.3	1.8	1.8	3.2	1.8	0.8	0.4
19.0	NEMATODA	.	.	5.0	4.8	.	.	0.8	0.8
20.0	AGLAOPHAMUS VERRILLI	2.7	2.7	0.8	0.4	2.2	2.2	1.0	0.5
21.5	AXIOTHELLA MUCOSA	.	.	4.0	1.6	0.6	0.6	0.8	0.8
21.5	NEMERTINEA	1.3	0.7	2.2	1.0	1.6	1.0	0.8	0.6
24.0	APSEUDES SP. B	.	.	3.4	1.2	0.8	0.6	0.8	0.6
24.0	PARAPRIONOSPIO PINNATA	0.3	0.3	3.2	1.0	1.4	0.9	0.2	0.2
24.0	PROTOHAUSTORIUS WIGLEYI	.	.	.	.	5.0	3.1	.	.
26.0	RILDARDANUS LAMINOSA	2.7	2.7	0.8	0.6	0.6	0.4	1.8	1.6
27.5	PHTISICA MARINA	.	.	4.4	2.7	0.2	0.2	.	.
27.5	SPIONIDAE B	1.7	1.7	0.8	0.6	1.8	1.3	1.0	0.5
29.0	EURYDICE PIPERATA	.	.	0.4	0.4	3.4	1.9	0.2	0.2
30.0	PRIONOSPIO CRISTATA	0.3	0.3	2.6	2.6	0.6	0.6	0.4	0.4
31.5	HARMOTHOE SP. A	.	.	2.0	1.0	0.8	0.6	0.8	0.6
31.5	MICROPANOPE SP. *	.	.	3.2	2.9	.	.	0.4	0.4
33.5	AMYGDALUM SAGITTATUM	.	.	3.4	1.2	.	.	.	.
33.5	EULALIA SANGUINEA	.	.	2.6	1.4	0.6	0.4	0.2	0.2
35.0	EUNICE VITTATA	.	.	1.6	0.6	0.6	0.6	1.0	0.6
36.0	TRICHOPHOXUS FLORIDANUS	.	.	1.6	0.9	0.8	0.5	0.6	0.6
38.5	ACANTHOHAUSTORIUS MILLSI	.	.	1.4	1.2	1.4	1.2	.	.
38.5	BATRACHONOTUS FRAGOSUS	.	.	1.2	0.6	1.2	1.0	0.4	0.2
38.5	LAONICE CIRRATA	1.0	1.0	1.4	0.5	0.4	0.2	0.4	0.2
38.5	STHENELAIS BOA	0.3	0.3	0.6	0.4	1.0	1.0	1.0	1.0
42.0	ARMANDIA MACULATA	.	.	.	.	.	.	2.6	2.6
42.0	EUCEPAMUS PRAELONGUS	2.0	1.5	1.4	0.7	.	.	.	.
42.0	XANTHIDAE B	.	.	.	.	2.0	1.3	0.6	0.4
44.0	GLYCERA CAPITATA	.	.	1.2	1.0	0.2	0.2	1.0	0.8
45.5	AUTOMATE EVERMANNI	.	.	0.6	0.4	0.4	0.2	1.2	0.7
45.5	LOIMIA MEDUSA	2.0	1.1	0.2	0.2	0.8	0.8	.	.
50.0	AMPELISCA CRISTOIDES	.	.	0.4	0.2	1.4	0.7	0.2	0.2
50.0	AMPELISCA VENETIENSIS	.	.	1.2	1.2	0.2	0.2	0.6	0.4
50.0	GAMMAROPSIS SP.	.	.	1.4	0.9	0.6	0.4	.	.
50.0	GLOTTIDIA PYRAMIDATA	.	.	1.0	0.6	.	.	1.0	0.8
50.0	PHYLLODOCE LONGIPES	.	.	1.4	0.6	0.6	0.4	.	.
50.0	PSAMMOLYCE CTENIDOPHORA	.	.	0.4	0.2	1.2	1.0	0.4	0.2
50.0	THYONE PSEUDOFUSUS	.	.	1.6	1.6	0.4	0.4	.	.
57.5	ASYCHIS CAROLINAE	1.7	1.7	0.8	0.8	.	.	.	.
57.5	ERICHTHONIUS BRASILIENSIS	.	.	1.4	0.9	0.4	0.4	.	.

Appendix 3. (Continued)

STATION OS01

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
57.5	HOLOTHUROIDEA	.	.	1.8	1.6	.	.	.	.
57.5	LEPTOCHELA PAPULATA	.	.	0.4	0.2	1.2	1.0	0.2	0.2
57.5	NEPHTYS SQUAMOSA	.	.	0.8	0.6	1.0	0.4	.	.
57.5	NOTOMASTUS SP.	0.3	0.3	0.2	0.2	0.8	0.6	0.6	0.6
57.5	PAGURIDEA	.	.	0.6	0.2	0.8	0.5	0.4	0.2
57.5	XANTHIDAE A	.	.	.	.	1.8	1.8	.	.
66.5	AXIOGNATHUS SQUAMATUS	0.7	0.7	.	.	1.0	1.0	0.2	0.2
66.5	BRACHYURA	.	.	0.2	0.2	0.6	0.2	0.8	0.2
66.5	DIOPATRA CUPREA	.	.	1.4	0.5	0.2	0.2	.	.
66.5	GLYCERA SP. C	.	.	1.6	0.7	.	.	.	.
66.5	GONIADA MACULATA	1.0	1.0	0.6	0.4	.	.	0.4	0.4
66.5	GONIADIDAE A	.	.	1.0	1.0	.	.	0.6	0.6
66.5	GONIADIDES CAROLINAE	.	.	1.6	1.0	.	.	.	.
66.5	NOTOMASTUS AMERICANUS	.	.	0.2	0.2	.	.	1.4	0.9
66.5	OPHIUROIDEA	0.7	0.7	0.8	0.8	.	.	0.4	0.2
66.5	POMATOCEROS AMERICANUS	.	.	0.6	0.6	0.6	0.4	0.4	0.4
77.0	CHEVALIA SP.	.	.	.	.	1.4	1.2	.	.
77.0	CHONE AMERICANA	0.3	0.3	0.6	0.4	0.2	0.2	0.4	0.2
77.0	LUMBRINERIS COCCINEA	0.7	0.7	0.4	0.4	.	.	0.6	0.4
77.0	PAGURUS SP.	1.7	1.7	0.2	0.2	0.2	0.2	.	.
77.0	PARTHENOPE FRATERCULUS	.	.	1.4	1.2	.	.	.	.
77.0	PRIONOSPIO SP. B	0.3	0.3	1.0	0.5	.	.	0.2	0.2
77.0	PROCESSA SP.	.	.	1.4	0.4	.	.	.	.
77.0	PROTODORVILLEA KEFERSTEINI	.	.	1.4	0.9	.	.	.	.
77.0	STOMATOPODA A	.	.	1.4	0.4	.	.	.	.
77.0	TELLINA SYBARITICA	.	.	0.4	0.4	0.4	0.4	0.6	0.4
77.0	THARYX MARIONI	.	.	0.8	0.6	0.6	0.6	.	.
89.5	ASPIDOSIPHON GOSNOLDI	.	.	0.8	0.4	0.4	0.4	.	.
89.5	ASTROPECTEN SP.	.	.	1.2	0.6	.	.	.	.
89.5	CALOCARIS HIRSUTIMANA	.	.	1.2	0.7	.	.	.	.
89.5	CHIONE GRUS	0.7	0.3	0.4	0.2	0.2	0.2	0.2	0.2
89.5	CLYTHROCERUS PERPUSILLUS	0.7	0.7	0.2	0.2	0.2	0.2	0.4	0.4
89.5	GLYCERA SP. B	.	.	1.0	0.8	0.2	0.2	.	.
89.5	LEMBOS UNICORNIS	.	.	1.0	0.5	0.2	0.2	.	.
89.5	MALDANIDAE	.	.	1.0	1.0	.	.	0.2	0.2
89.5	NASSARIUS ALBUS	.	.	0.6	0.4	0.4	0.2	0.2	0.2
89.5	NOTOPYGOS CRINITA	.	.	1.2	1.0	.	.	.	.
89.5	OLIGOCHAETA	.	.	0.6	0.6	.	.	0.6	0.4
89.5	PAGURUS HENDERSONI	1.7	1.7	0.2	0.2	.	.	.	.
89.5	PELECYPODA	.	.	1.0	0.5	0.2	0.2	.	.
89.5	TEREBELLIDAE F	.	.	.	.	0.4	0.4	0.8	0.8
103.5	CAPITELLIDAE	.	.	0.4	0.2	.	.	0.6	0.6
103.5	CAULLERIELLA KILLARIENSIS	.	.	0.4	0.2	0.4	0.4	0.2	0.2
103.5	CHAETOPTERUS VARIOPEDATUS	.	.	0.8	0.5	0.2	0.2	.	.
103.5	IDUNELLA SP.	.	.	.	.	0.6	0.4	0.4	0.4
103.5	LUCIFER FAXONI	.	.	0.2	0.2	0.2	0.2	0.6	0.2
103.5	MARGINELLA ROSCIDA	0.3	0.3	0.6	0.2	0.2	0.2	.	.
103.5	NEOPONTONIDES BEAUFORTENSIS	.	.	.	.	1.0	1.0	.	.
103.5	PHYLLOCHAETOPTERUS SOCIALIS	0.3	0.3	0.4	0.4	0.4	0.2	.	.
103.5	POLYDORA CAECA	.	.	0.4	0.2	0.6	0.2	.	.
103.5	PSEUDOMEDAEUS AGASSIZII	1.7	1.2	.	.	.	.	.	.
103.5	SPIOPHANES SP. A	.	.	1.0	1.0	.	.	.	.
103.5	SYLLIS HYALINA	.	.	0.6	0.6	0.4	0.2	.	.
103.5	THOR SP.	.	.	0.4	0.4	0.6	0.4	.	.
103.5	TURBELLARIA	.	.	1.0	0.3	.	.	.	.

Appendix 3. (Continued)

STATION OS01

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
118.5	ACTEON CANDENS	0.3	0.3	0.6	0.2	.	.	.	.
118.5	AONIDES MAYAGUEZENSIS	.	.	0.2	0.2	.	.	0.6	0.6
118.5	DELECTOPECTEN SP.	.	.	0.6	0.6	.	.	0.2	0.2
118.5	GLYCERA PAPILLOSA	0.7	0.7	0.4	0.4	.	.	.	.
118.5	GLYCERA SP. A	.	.	0.4	0.4	0.2	0.2	0.2	0.2
118.5	MACROCLYMENE ZONALIS	.	.	0.8	0.8	.	.	.	.
118.5	ODONTOSYLLIS ENOPLA	.	.	0.8	0.6	.	.	.	.
118.5	PALICUS SP.	0.3	0.3	0.6	0.2	.	.	.	.
118.5	PELECYPODA B	.	.	0.2	0.2	0.6	0.2	.	.
118.5	PODOCHELA GRACILIPES	0.7	0.7	.	.	0.4	0.2	.	.
118.5	POLYCIRRUS EXIMIUS	0.7	0.7	0.4	0.4	.	.	.	.
118.5	SABELLARIA VULGARIS VULGARIS	.	.	0.2	0.2	0.6	0.6	.	.
118.5	SEMELE BELLASTRIATA	.	.	.	.	0.4	0.2	0.4	0.2
118.5	SPIO PETTIBONEAE	.	.	0.6	0.4	.	.	0.2	0.2
118.5	SPIO SP. A	1.0	1.0	0.2	0.2	.	.	.	.
118.5	STOMATOPODA	.	.	0.2	0.2	.	.	0.6	0.2
142.5	AMPHINOMIDAE B	.	.	.	.	0.6	0.6	.	.
142.5	AMPHIPODA G	.	.	0.6	0.4	.	.	.	.
142.5	ANOPLODACTYLUS PETIOLATUS	.	.	0.6	0.4	.	.	.	.
142.5	CAPRELLA EQUILIBRA	.	.	0.6	0.6	.	.	.	.
142.5	GLYCERIDAE	.	.	.	.	0.4	0.4	0.2	0.2
142.5	GOULDIA CERINA	.	.	.	.	0.2	0.2	0.4	0.2
142.5	LILJEBORGIA SP. B	1.0	0.6	.	.	.	.	.	.
142.5	LIMA PELLUCIDA	.	.	0.4	0.4	0.2	0.2	.	.
142.5	LUMBRINERIS INFLATA	1.0	1.0	.	.	.	.	.	.
142.5	MEGALOBRACHIUM SORIATUM	.	.	0.6	0.6	.	.	.	.
142.5	MITRELLA LUNATA	.	.	0.6	0.2	.	.	.	.
142.5	NEPHTYS INCISA	.	.	0.6	0.2	.	.	.	.
142.5	NUCULA PROXIMA	.	.	0.6	0.4	.	.	.	.
142.5	ONUPHIS SP.	.	.	0.2	0.2	0.4	0.4	.	.
142.5	OSTRACODA	.	.	0.4	0.2	.	.	0.2	0.2
142.5	PAGURUS CAROLINENSIS	.	.	0.2	0.2	0.2	0.2	0.2	0.2
142.5	PALAEMONIDAE *	.	.	0.2	0.2	.	.	0.4	0.4
142.5	PARAONIDAE	.	.	0.2	0.2	.	.	0.4	0.2
142.5	PHILINE SAGRA	.	.	0.6	0.6	.	.	.	.
142.5	PHORONIS ARCHITECTA	.	.	0.6	0.4	.	.	.	.
142.5	PHYLLODOCE ARENAE	.	.	0.4	0.2	.	.	0.2	0.2
142.5	PHYLLODOCE SP.	.	.	0.4	0.2	.	.	0.2	0.2
142.5	PSEUDEURYTHOE AMBIGUA	.	.	.	.	.	.	0.6	0.4
142.5	PTILANTHURA TRICARINA	.	.	0.2	0.2	0.4	0.2	.	.
142.5	SCHISTOMERINGOS RUDOLPHI	.	.	0.4	0.4	.	.	0.2	0.2
142.5	SIPUNCULIDA	.	.	0.6	0.4	.	.	.	.
142.5	SIPUNCULIDA E	.	.	0.6	0.4	.	.	.	.
142.5	SPIONIDAE	0.3	0.3	.	.	.	.	0.4	0.4
142.5	SPIONIDAE A	.	.	0.6	0.4	.	.	.	.
142.5	SUBADYTE PELLUCIDA	0.3	0.3	.	.	0.4	0.2	.	.
142.5	TEREBELLIDAE A	0.3	0.3	0.4	0.4	.	.	.	.
142.5	TEREBELLIDAE H	.	.	.	.	.	.	0.6	0.6
189.5	ACCALATHURA CRENULATA	.	.	0.2	0.2	.	.	0.2	0.2
189.5	AMPHIODIA SP.	.	.	0.2	0.2	.	.	0.2	0.2
189.5	AMPHIPODA E	0.7	0.3	.	.	.	.	.	.
189.5	ARABELLA MUTANS	.	.	0.4	0.4	.	.	.	.
189.5	ARGOPECTEN GIBBUS	.	.	0.4	0.4	.	.	.	.
189.5	ARICIDEA FRAGILIS	.	.	0.2	0.2	.	.	0.2	0.2
189.5	ASPIDOSIPHON ALBUS	.	.	0.4	0.2	.	.	.	.

Appendix 3. (Continued)

STATION OS01

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
189.5	CHRYSOPETALIDAE A	.	.	0.4	0.4	.	.	.	.
189.5	CHRYSOPETALIDAE B	.	.	0.4	0.4	.	.	.	.
189.5	CORBULA CONTRACTA	0.3	0.3	.	.	0.2	0.2	.	.
189.5	CRENELLA DIVARICATA	.	.	0.4	0.4	.	.	.	.
189.5	DAPHNELLA MORRA	.	.	0.4	0.4	.	.	.	.
189.5	EBALIA STIMPSONI	.	.	0.2	0.2	.	.	0.2	0.2
189.5	EPITONIUM NOVANGLIAE	.	.	0.4	0.4	.	.	.	.
189.5	ETHUSA MASCARONE AMERICANA	.	.	.	.	0.2	0.2	0.2	0.2
189.5	GASTROCHAENA HIANS	0.7	0.7	.	.	.	.	.	.
189.5	GLYCERA TESSELATA	.	.	0.2	0.2	0.2	0.2	.	.
189.5	HIPPOMEDON SP. B	.	.	0.4	0.2	.	.	.	.
189.5	IRIDOPAGURUS DISPAR	0.3	0.3	.	.	.	.	0.2	0.2
189.5	LEMBOS SPINICARPUS INERMIS	.	.	.	.	0.4	0.4	.	.
189.5	LUMBRINERIDAE	.	.	0.4	0.4	.	.	.	.
189.5	LUMBRINERIDES ACUTA	.	.	0.4	0.2	.	.	.	.
189.5	LUMBRINERIOPSIS PARADOXA	.	.	0.4	0.2	.	.	.	.
189.5	LYONSIA HYALINA	.	.	0.4	0.4	.	.	.	.
189.5	MAERA SP. A	0.7	0.7	.	.	.	.	.	.
189.5	MAGELONA SP. A	.	.	0.2	0.2	.	.	0.2	0.2
189.5	MANGELIA RUGIRIMA	0.3	0.3	.	.	0.2	0.2	.	.
189.5	MELITA APPENDICULATA	.	.	.	.	0.4	0.4	.	.
189.5	MICRODEUTOPUS MYERSI	0.7	0.7	.	.	.	.	.	.
189.5	MICROPANOPE PUSILLA *	.	.	0.4	0.4	.	.	.	.
189.5	MICROSPIO PIGMENTATA	.	.	0.4	0.4	.	.	.	.
189.5	NAINERIS SP.	.	.	0.4	0.4	.	.	.	.
189.5	NEMERTINEA D	.	.	.	.	0.2	0.2	0.2	0.2
189.5	OCNUS PYGMAEUS	.	.	.	.	0.4	0.2	.	.
189.5	PAGURISTES TRIANGULATUS	.	.	.	.	0.4	0.4	.	.
189.5	PARAPHOXUS SPINOSUS	.	.	.	.	.	.	0.4	0.2
189.5	PECTINIDAE A	.	.	0.4	0.4	.	.	.	.
189.5	PHILINE QUADRATA	.	.	0.4	0.4	.	.	.	.
189.5	PHYLLODOCE SP. F	.	.	0.4	0.4	.	.	.	.
189.5	PHYLLODOCIDAE	0.3	0.3	0.2	0.2	.	.	.	.
189.5	PILUMNUS SP.	.	.	0.4	0.4	.	.	.	.
189.5	PISIONE REMOTA	.	.	0.2	0.2	.	.	0.2	0.2
189.5	PLEUROMERIS TRIDENTATA	.	.	0.4	0.4	.	.	.	.
189.5	PLICATULA GIBBOSA	.	.	0.4	0.4	.	.	.	.
189.5	PODOCHELA SP.	.	.	0.2	0.2	0.2	0.2	.	.
189.5	POECILOCHAETUS SP.	.	.	0.2	0.2	0.2	0.2	.	.
189.5	PRIONOSPIO CIRRIFERA	.	.	0.2	0.2	0.2	0.2	.	.
189.5	PROCESSA GUYANAE	.	.	0.4	0.4	.	.	.	.
189.5	SCOLELEPIS TEXANA	.	.	0.4	0.4	.	.	.	.
189.5	SCOLOPLOS SP.	.	.	0.4	0.2	.	.	.	.
189.5	SICYONIA SP.	.	.	0.2	0.2	0.2	0.2	.	.
189.5	SIGALIONIDAE	.	.	.	.	.	.	0.4	0.2
189.5	SIPUNCULIDA B	.	.	.	.	0.4	0.4	.	.
189.5	SOLENOCERA SP.	.	.	0.4	0.4	.	.	.	.
189.5	STENOPLEUSTES SP. A	.	.	0.2	0.2	0.2	0.2	.	.
189.5	STROMBIFORMIS BILINEATUS	.	.	0.4	0.2	.	.	.	.
189.5	SYLLIDAE L	.	.	.	.	0.4	0.4	.	.
189.5	SYNCHELIDIUM AMERICANUM	.	.	0.2	0.2	0.2	0.2	.	.
189.5	TEREBELLIDAE C	.	.	0.2	0.2	.	.	0.2	0.2
189.5	TEREBELLIDES STROEMI	.	.	.	.	0.4	0.4	.	.
189.5	THARYX SP.	.	.	.	.	.	.	0.4	0.2
189.5	TRICHOPHOXUS EPISTOMUS	.	.	0.2	0.2	0.2	0.2	.	.

Appendix 3. (Continued)

STATION OS01

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
296.0	ALPHEUS SP. B							0.2	0.2
296.0	AMPELISCA SP. C							0.2	0.2
296.0	AMPELISCA VERRILLI			0.2	0.2				
296.0	AMPHINOMIDAE A			0.2	0.2				
296.0	AMPHIODIA TRYCHNA			0.2	0.2				
296.0	ANOMURA			0.2	0.2				
296.0	ARBACIA PUNCTULATA	0.3	0.3						
296.0	ARGOPECTEN IRRADIANS			0.2	0.2				
296.0	ARICIDEA SUECICA			0.2	0.2				
296.0	ARMINA WATTLA			0.2	0.2				
296.0	ASTERIAS FORBESII			0.2	0.2				
296.0	ASTHENOTHAERUS HEMPHILLI							0.2	0.2
296.0	ASTROPECTEN COMPTUS			0.2	0.2				
296.0	BODOTRIIDAE B			0.2	0.2				
296.0	BRANCHIOSYLLIS EXILIS	0.3	0.3						
296.0	CARIDEA							0.2	0.2
296.0	CAVOLINIA LONGIROSTRIS					0.2	0.2		
296.0	CHAETOPTERIDAE					0.2	0.2		
296.0	CHIONE LATILIRATA			0.2	0.2				
296.0	CIRSOTREMA DALLI			0.2	0.2				
296.0	COLLODES SP.	0.3	0.3						
296.0	DENTALIUM OCCIDENTALE							0.2	0.2
296.0	DIACRIA QUADRIDENTATA			0.2	0.2				
296.0	DIASTYLIDAE A			0.2	0.2				
296.0	DIODORA CAYENENSIS *	0.3	0.3						
296.0	DIPLOCIRRUS CAPENSIS					0.2	0.2		
296.0	DONAX SP.			0.2	0.2				
296.0	DROMIIDAE							0.2	0.2
296.0	EBALIA SP.			0.2	0.2				
296.0	EBALIA SP. *			0.2	0.2				
296.0	ECHINASTER SP.			0.2	0.2				
296.0	ECHINOIDEA			0.2	0.2				
296.0	ECHIURIDA							0.2	0.2
296.0	EPITONIUM KREBSII							0.2	0.2
296.0	EULALIA SP.			0.2	0.2				
296.0	EUNICE ANTENNATA	0.3	0.3						
296.0	EUNICE SP.	0.3	0.3						
296.0	GALATHEA ROSTRATA	0.3	0.3						
296.0	GONEPLAX SIGSBEI			0.2	0.2				
296.0	GONIADA TERES			0.2	0.2				
296.0	GONIADIDAE B			0.2	0.2				
296.0	HIATELLA SP. A			0.2	0.2				
296.0	HIPPOLYTE SP. *	0.3	0.3						
296.0	HIPPOLYTIDAE			0.2	0.2				
296.0	HYDROIDES PROTULICOLA	0.3	0.3						
296.0	HYDROIDES UNCINATA			0.2	0.2				
296.0	HYPOCONCHA ARCUATA	0.3	0.3						
296.0	HYPOCONCHA SABULOSA							0.2	0.2
296.0	IRIDOPAGURUS DISPAR *			0.2	0.2				
296.0	LAEVICARDIUM PICTUM			0.2	0.2				
296.0	LEPTOCHELA BERMUDENSIS			0.2	0.2				
296.0	LEPTOCHELIA SP.					0.2	0.2		
296.0	LEUCOTHOE SPINICARPA							0.2	0.2
296.0	LYONSIA SP.					0.2	0.2		
296.0	LYSIDICE NINETTA					0.2	0.2		

Appendix 3. (Continued)

STATION OS01

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
296.0	MAGELONA SP. B							0.2	0.2
296.0	MALACOCEROS GLUTAEUS					0.2	0.2		
296.0	MARGINELLA HARTLEYANUM			0.2	0.2				
296.0	MARGINELLA SP.			0.2	0.2				
296.0	MEDIOMASTUS CALIFORNIENSIS					0.2	0.2		
296.0	MEGALOMMA BIOCULATUM			0.2	0.2				
296.0	MICROPANOPE SP.							0.2	0.2
296.0	MICROPANOPE URINATOR *			0.2	0.2				
296.0	MUNIDA IRRASA					0.2	0.2		
296.0	MUNIDA SP.			0.2	0.2				
296.0	MUREX FLORIFER DILECTUS			0.2	0.2				
296.0	MUSCULUS LATERALIS			0.2	0.2				
296.0	NANNODIELLA MELANITICA	0.3	0.3						
296.0	NANNOSQUILLA SP. A			0.2	0.2				
296.0	NASSARINA MINOR			0.2	0.2				
296.0	NASSARIUS VIBEX	0.3	0.3						
296.0	NEPHTYIDAE			0.2	0.2				
296.0	NEREIDAE							0.2	0.2
296.0	NEREIS ACUMINATA			0.2	0.2				
296.0	NEREIS SP.							0.2	0.2
296.0	NOTOMASTUS HEMIPODUS			0.2	0.2				
296.0	ODOSTOMIA LAEVIGATA			0.2	0.2				
296.0	ONUPHIDAE			0.2	0.2				
296.0	ONUPHIS SP. A							0.2	0.2
296.0	OPHIOCNIDA SP.			0.2	0.2				
296.0	OPHIOTHRIX ANGULATA			0.2	0.2				
296.0	PAGURIDAE			0.2	0.2				
296.0	PAGURUS HENDERSONI *							0.2	0.2
296.0	PAGURUS PIERCEI	0.3	0.3						
296.0	PAGURUS SP. *					0.2	0.2		
296.0	PALICUS ALTERNATUS					0.2	0.2		
296.0	PALLIOLUM RETICULUM			0.2	0.2				
296.0	PARANAITIS POLYNOIDES					0.2	0.2		
296.0	PARANAITIS SPECIOSA			0.2	0.2				
296.0	PARAPINNIXA BOUVIERI					0.2	0.2		
296.0	PARDALISCIDAE A			0.2	0.2				
296.0	PASIPHAEIDAE			0.2	0.2				
296.0	PECTINIDAE					0.2	0.2		
296.0	PELECYPODA F			0.2	0.2				
296.0	PELTA MUTICA			0.2	0.2				
296.0	PERICLIMENES AMERICANUS							0.2	0.2
296.0	PERICLIMENES SP.					0.2	0.2		
296.0	PETROLISTHES GALATHINUS			0.2	0.2				
296.0	PHERUSA EHLERSI			0.2	0.2				
296.0	PHYLLODOCE MADEIRENSIS					0.2	0.2		
296.0	PHYLLODOCE PANAMENSIS			0.2	0.2				
296.0	PINNIXA SP.			0.2	0.2				
296.0	PINNOTHERIDAE			0.2	0.2				
296.0	PISTA QUADRILOBATA	0.3	0.3						
296.0	PLAKOSYLLIS QUADRIOCULATA					0.2	0.2		
296.0	PODARKE OBSCURA							0.2	0.2
296.0	PODOCHELA RIISEI			0.2	0.2				
296.0	POLINICES UBERINUS			0.2	0.2				
296.0	POLYCHAETA E					0.2	0.2		
296.0	PORTUNUS SP.			0.2	0.2				

Appendix 3. (Continued)

STATION OS01

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
296.0	PORTUNUS SPINICARPUS					0.2	0.2		
296.0	PRIMNO LATREILLEI			0.2	0.2				
296.0	PRIONOSPIO SP.			0.2	0.2				
296.0	PYLOPAGURUS HOLTHUISI							0.2	0.2
296.0	PYLOPAGURUS SP.			0.2	0.2				
296.0	PYRUNCULUS CAELATUS			0.2	0.2				
296.0	RANINIDAE			0.2	0.2				
296.0	SABELLIDAE							0.2	0.2
296.0	SCALIBREGMA INFLATUM							0.2	0.2
296.0	SCOLELEPIS SP. B							0.2	0.2
296.0	SCOLOPLOS SP. A			0.2	0.2				
296.0	SEMELE NUCULOIDES	0.3	0.3						
296.0	SERPULIDAE	0.3	0.3						
296.0	SICYONIA BREVIROSTRIS *	0.3	0.3						
296.0	SIGATICA CAROLINENSIS					0.2	0.2		
296.0	SIPUNCULIDA A			0.2	0.2				
296.0	SIPUNCULIDA C	0.3	0.3						
296.0	SOLEMYA VELUM *					0.2	0.2		
296.0	SOLENOCERA ATLANTIDIS	0.3	0.3						
296.0	STENOCIONOPS FURCATA COELATA					0.2	0.2		
296.0	STENORHYNCHUS SETICORNIS					0.2	0.2		
296.0	STHENELANELLA SP. A			0.2	0.2				
296.0	SYLLIDAE							0.2	0.2
296.0	SYLLIS CORNUTA	0.3	0.3						
296.0	SYNALPHEUS SP.			0.2	0.2				
296.0	TANAIDACEA B			0.2	0.2				
296.0	TELLINA SP.					0.2	0.2		
296.0	TELLINA SP. *			0.2	0.2				
296.0	TEREBELLIDAE							0.2	0.2
296.0	THOR FLORIDANUS			0.2	0.2				
296.0	THOR MANNINGI	0.3	0.3						
296.0	TRACHYCARDIUM EGMONTIANUM *							0.2	0.2
296.0	TRACHYCARIS RESTRICTUS					0.2	0.2		
296.0	TRAVISIA PARVA					0.2	0.2		
296.0	TRICHOBRANCHUS GLACIALIS							0.2	0.2
296.0	TURBONILLA ABRUPTA			0.2	0.2				
296.0	VARICORBULA OPERCULATA							0.2	0.2
296.0	VOLVULELLA PAUPERCULA			0.2	0.2				
296.0	VOLVULELLA PERSIMILIS			0.2	0.2				
296.0	WEBSTERINEREIS SP.							0.2	0.2
296.0	XANTHIDAE			0.2	0.2				

Appendix 3. (Continued)

STATION OS06

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
1.0	FILOGRANA IMPLEXA	.	.	34.6	30.7	1.0	1.0	18.0	6.6
2.0	PLAKOSYLLIS QUADRIOCULATA	.	.	17.2	16.9	5.2	2.3	.	.
3.0	RILDARDANUS LAMINOSA	.	.	15.8	8.8	4.0	1.2	1.0	0.4
4.0	HESIONIDAE	.	.	13.4	13.4	0.8	0.6	.	.
5.0	PROTOMEDEIA SP. A	.	.	5.0	3.1	0.2	0.2	5.6	4.7
6.0	AMPHARETE AMERICANA	.	.	5.0	4.0	4.4	3.5	1.2	0.6
7.5	SPHAEROSYLLIS SP.	.	.	9.0	7.8	.	.	0.4	0.4
7.5	SYLLIS SPONGICOLA	.	.	4.4	2.9	2.0	0.5	3.0	1.5
9.5	CHONE AMERICANA	.	.	2.8	1.5	4.6	2.6	0.6	0.2
9.5	SYLLIDAE L	.	.	3.6	3.3	4.0	2.3	0.4	0.2
11.0	SYLLIS HYALINA	.	.	3.8	2.6	1.2	0.7	2.0	0.8
12.5	COROPHIIDAE	.	.	6.6	6.6	.	.	.	.
12.5	GENOCIDARIS MACULATA	.	.	1.8	1.6	4.2	2.6	0.6	0.2
14.0	SERPULIDAE N	.	.	2.6	2.3	3.8	2.3	.	.
15.0	PISIONE REMOTA	.	.	2.2	2.2	3.2	1.8	.	.
16.5	CHRYSOPETALIDAE A	.	.	1.8	1.3	3.4	1.8	.	.
16.5	NEMATODA	.	.	0.4	0.4	4.8	3.0	.	.
19.5	GLYCERA TESSELATA	.	.	2.2	1.7	1.4	0.7	1.0	0.6
19.5	MUNIDA SP.	.	.	2.4	2.1	1.6	1.1	0.6	0.4
19.5	OLIGOCHAETA	.	.	1.6	1.6	2.8	1.7	0.2	0.2
19.5	SPIOPHANES BOMBYX	.	.	4.4	2.9	.	.	0.2	0.2
23.0	GLYCERA PAPILLOSA	.	.	1.8	1.0	2.4	2.1	.	.
23.0	MELITIDAE A	.	.	2.0	2.0	0.8	0.5	1.4	0.9
23.0	SYLLIS ALTERNATA	.	.	2.0	1.1	1.4	0.9	0.8	0.6
25.5	MUNIDA PUSILLA	.	.	2.2	1.3	0.2	0.2	1.4	0.9
25.5	PRIONOSPIO CRISTATA	.	.	2.8	2.3	0.8	0.6	0.2	0.2
27.5	PHOTIS SP.	.	.	0.6	0.4	3.0	1.9	.	.
27.5	TANAIDACEA B	.	.	0.8	0.6	2.8	2.5	.	.
30.5	CAULLERIELLA KILLARIENSIS	.	.	2.0	1.8	1.0	0.3	0.4	0.4
30.5	EUNICE VITTATA	.	.	2.2	1.5	0.6	0.4	0.6	0.6
30.5	NOTOMASTUS LATERICEUS	.	.	.	.	3.0	1.8	0.4	0.4
30.5	SYLLIDAE	.	.	2.8	2.5	0.6	0.6	.	.
34.0	GLYCERIDAE	.	.	2.8	2.8	0.2	0.2	.	.
34.0	ODONTOSYLLIS ENOPLA	.	.	1.6	1.4	1.0	0.3	0.4	0.2
34.0	SYLLIS SP. D	.	.	1.8	0.8	0.6	0.4	0.6	0.6
36.0	GLYCERA SP. B	.	.	.	.	.	.	2.8	1.3
37.5	PROTODORVILLEA KEFERSTEINI	.	.	1.2	1.0	1.4	0.7	.	.
37.5	TURBELLARIA	.	.	2.4	1.9	.	.	0.2	0.2
39.5	EURYDICE PIPERATA	.	.	0.2	0.2	2.2	1.1	.	.
39.5	PISTA PALMATA	.	.	2.0	1.3	0.2	0.2	0.2	0.2
44.0	ERICHTHONIUS SP. A	.	.	2.2	1.2	.	.	.	.
44.0	GONIADIDES CAROLINAE	.	.	0.2	0.2	2.0	1.3	.	.
44.0	HESIONIDAE A	.	.	0.6	0.6	.	.	1.6	1.4
44.0	LANICE SP.	.	.	2.0	1.8	.	.	0.2	0.2
44.0	LEUCOTHOE SPINICARPA	.	.	0.6	0.4	0.6	0.6	1.0	1.0
44.0	SYLLIS FERRUGINA	.	.	1.4	0.9	0.2	0.2	0.6	0.4
44.0	THOR SP.	.	.	0.2	0.2	0.8	0.6	1.2	0.4
50.0	HARMOTHOE SP. A	.	.	1.0	1.0	1.0	0.4	.	.
50.0	PAGURIDEA	.	.	0.4	0.4	1.2	0.6	0.4	0.2
50.0	PERICLIMENES AMERICANUS	.	.	.	.	0.4	0.4	1.6	0.8
50.0	SPHAEROSYLLIS PIRIFERA	.	.	.	.	0.6	0.4	1.4	1.2
50.0	XANTHIDAE A	.	.	0.2	0.2	0.4	0.2	1.4	1.0
54.0	CERATONEREIS MIRABILIS	.	.	.	.	1.6	0.2	0.2	0.2
54.0	PAGURISTES SP.	.	.	1.6	0.7	0.2	0.2	.	.
54.0	SABELLIDAE	.	.	0.6	0.4	1.2	0.8	.	.

Appendix 3. (Continued)

STATION OS06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
60.0	AMPHIPODA G	•	•	•	•	1.6	1.4	•	•
60.0	INGOLFIELLA SP. A	•	•	1.4	1.4	0.2	0.2	•	•
60.0	LEPTOCHELIA SP.	•	•	1.0	0.4	0.4	0.2	0.2	0.2
60.0	NEMERTINEA	•	•	0.6	0.6	0.4	0.4	0.6	0.6
60.0	NOTOMASTUS SP.	•	•	0.8	0.6	0.6	0.4	0.2	0.2
60.0	PAGURIDAE	•	•	1.6	1.1	•	•	•	•
60.0	SEMELE PURPURASCENS	•	•	1.2	1.0	0.4	0.4	•	•
60.0	SPATANGOIDEA	•	•	•	•	1.6	0.9	•	•
60.0	XANTHIDAE	•	•	1.2	1.2	0.2	0.2	0.2	0.2
67.5	ARCOPSIS ADAMSI	•	•	1.0	0.4	0.2	0.2	0.2	0.2
67.5	CRASSINELLA LUNULATA	•	•	1.2	1.2	•	•	0.2	0.2
67.5	OPHIOLEPIS ELEGANS	•	•	1.4	1.4	•	•	•	•
67.5	PAGURUS SP.	•	•	1.0	0.8	•	•	0.4	0.4
67.5	SERPULIDAE	•	•	0.4	0.2	0.4	0.4	0.6	0.4
67.5	SIPUNCULIDA	•	•	0.2	0.2	1.0	0.4	0.2	0.2
75.5	ASPIDOSIPHON GOSNOLDI	•	•	0.6	0.6	0.2	0.2	0.4	0.4
75.5	AUTOLYTUS SP.	•	•	0.2	0.2	0.2	0.2	0.8	0.6
75.5	GLYCERA CAPITATA	•	•	0.2	0.2	1.0	0.8	•	•
75.5	LEUCOTHOE SP. A	•	•	•	•	•	•	1.2	1.0
75.5	OPHIUROIDEA	•	•	0.8	0.8	0.2	0.2	0.2	0.2
75.5	PHYLLOCHAETOPTERUS SOCIALIS	•	•	•	•	1.0	0.6	0.2	0.2
75.5	PRIONOSPIO SP.	•	•	1.2	1.2	•	•	•	•
75.5	PYLOPAGURUS HOLTHUISI	•	•	0.4	0.4	0.6	0.6	0.2	0.2
75.5	SIPUNCULIDA B	•	•	1.2	0.8	•	•	•	•
75.5	SUBADYTE PELLUCIDA	•	•	0.4	0.2	0.6	0.4	0.2	0.2
86.0	ALPHEUS NORMANNI	•	•	•	•	0.2	0.2	0.8	0.5
86.0	AONIDES MAYAGUEZENSIS	•	•	•	•	0.6	0.6	0.4	0.2
86.0	ARBACIA PUNCTULATA	•	•	0.6	0.4	•	•	0.4	0.4
86.0	ELASMOPUS SP. A	•	•	•	•	1.0	0.5	•	•
86.0	LAONICE CIRRATA	•	•	0.2	0.2	0.6	0.2	0.2	0.2
86.0	LUCONACIA INCERTA	•	•	1.0	1.0	•	•	•	•
86.0	MICROPANOPE SCULPTIPES	•	•	0.6	0.6	0.2	0.2	0.2	0.2
86.0	PAGURISTES TORTUGAE	•	•	1.0	0.6	•	•	•	•
86.0	PHYLLOCARIDA	•	•	0.4	0.4	•	•	•	•
86.0	TEREBELLIDES STROEMI	•	•	0.8	0.4	0.2	0.2	0.6	0.4
86.0	XANTHIDAE B	•	•	•	•	1.0	0.6	•	•
104.5	ALPHEIDAE	•	•	0.8	0.8	•	•	•	•
104.5	AMPELISCA VADORUM	•	•	•	•	0.8	0.6	•	•
104.5	AMPHIPODA K	•	•	0.4	0.4	0.4	0.2	•	•
104.5	BRANCHIOSYLLIS EXILIS	•	•	0.8	0.5	•	•	•	•
104.5	CAPITELLIDAE A	•	•	0.6	0.4	0.2	0.2	•	•
104.5	ECHINOIDEA	•	•	0.8	0.5	•	•	•	•
104.5	GLANS DOMINGUENSIS	•	•	•	•	0.8	0.8	•	•
104.5	ISCHNOCHITONIDAE A	•	•	0.8	0.8	•	•	•	•
104.5	LEMBOS UNICORNIS	•	•	0.4	0.4	0.4	0.4	•	•
104.5	LEPTOCHELA PAPULATA	•	•	•	•	0.8	0.6	•	•
104.5	MAJIDAE A	•	•	•	•	0.6	0.6	0.2	0.2
104.5	MARGINELLA HARTLEYANUM	•	•	0.6	0.6	0.2	0.2	•	•
104.5	NANOPLAX XANTHIFORMIS	•	•	0.2	0.2	•	•	0.6	0.6
104.5	NEPHTYS SQUAMOSA	•	•	•	•	0.6	0.2	0.2	0.2
104.5	ODONTOSYLLIS SP.	•	•	0.8	0.8	•	•	•	•
104.5	OWENIA FUSIFORMIS	•	•	0.6	0.4	0.2	0.2	•	•
104.5	PAGURUS HENDERSONI	•	•	0.4	0.4	0.2	0.2	0.2	0.2
104.5	PHYLLODOCIDAE	•	•	0.8	0.8	•	•	•	•
104.5	POLYDORA CAECA	•	•	0.4	0.2	0.4	0.4	•	•

Appendix 3. (Continued)

STATION OS06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
104.5	POLYDORA SP.	.	.	0.4	0.4	0.2	0.2	0.2	0.2
104.5	POMATOCEROS AMERICANUS	.	.	0.6	0.4	0.2	0.2	.	.
104.5	PRIONOSPIO CIRRIFERA	.	.	0.6	0.6	.	.	0.2	0.2
104.5	PRIONOSPIO SP. B	.	.	0.6	0.6	0.2	0.2	.	.
104.5	SCHISTOMERINGOS RUDOLPHI	.	.	0.8	0.8	.	.	.	.
104.5	SPIO PETTIBONEAE	.	.	0.4	0.4	0.4	0.4	.	.
104.5	WEBSTERINEREIS SP. B	.	.	0.8	0.5	.	.	.	.
132.5	AMPELISCA VENETIENSIS	.	.	0.2	0.2	0.2	0.2	0.2	0.2
132.5	AMPHIURA STIMPSONI	.	.	0.6	0.4	.	.	.	.
132.5	ARMANDIA MACULATA	.	.	0.2	0.2	0.4	0.4	.	.
132.5	AUTOMATE EVERMANNI	.	.	.	.	0.6	0.6	.	.
132.5	BOWMANIELLA PORTORICENSIS	.	.	.	.	0.6	0.6	.	.
132.5	BRACHYURA	.	.	0.2	0.2	0.4	0.2	.	.
132.5	CHEVALIA SP.	.	.	0.6	0.6	.	.	.	.
132.5	ERICHTHONIUS BRASILIENSIS	.	.	0.4	0.4	0.2	0.2	.	.
132.5	EULALIA SANGUINEA	.	.	0.4	0.2	0.2	0.2	.	.
132.5	GONIADIDAE A	.	.	0.2	0.2	0.4	0.4	.	.
132.5	IRIDOPAGURUS DISPAR	.	.	0.6	0.4	.	.	.	.
132.5	LEMBOS SPINICARPUS INERMIS	.	.	0.2	0.2	0.2	0.2	0.2	0.2
132.5	LOIMIA MEDUSA	.	.	0.4	0.2	0.2	0.2	.	.
132.5	LUCIFER FAXONI	.	.	0.2	0.2	0.4	0.2	.	.
132.5	LYSIDICE NINETTA	.	.	0.2	0.2	0.2	0.2	0.2	0.2
132.5	MARGINELLA RUSCIDA	.	.	.	.	0.2	0.2	0.4	0.2
132.5	OPHIOMUSIUM SP.	.	.	.	.	0.6	0.4	.	.
132.5	OPHIOSTIGMA ISACANTHUM	.	.	.	.	0.6	0.6	.	.
132.5	PALICUS SP.	.	.	0.4	0.2	0.2	0.2	.	.
132.5	PERICLIMENES SP. *	.	.	0.4	0.4	0.2	0.2	.	.
132.5	POECILOCHAETUS SP.	.	.	.	.	0.6	0.4	.	.
132.5	PROCESSA SP.	.	.	.	.	0.6	0.4	.	.
132.5	PROTOMEDEIA SP.	.	.	.	.	0.6	0.6	.	.
132.5	PYLOPAGURUS SP. *	.	.	.	.	.	.	0.6	0.6
132.5	SYLLIS REGULATA CAROLINAE	.	.	.	.	0.2	0.2	0.4	0.2
132.5	SYNALPHEUS SP.	.	.	0.4	0.2	.	.	0.2	0.2
132.5	TEREBELLIDAE C	.	.	0.4	0.4	.	.	0.2	0.2
132.5	THYONE PSEUDOFUSUS	.	.	0.4	0.4	0.2	0.2	.	.
132.5	TRYPANOSYLLIS ZEBRA	.	.	0.2	0.2	.	.	0.4	0.4
132.5	UNCIOLA SP. A	.	.	.	.	0.6	0.2	.	.
173.5	ALPHEOPSIS SP. *	.	.	0.2	0.2	0.2	0.2	.	.
173.5	AMPHIPODA J	.	.	.	.	0.4	0.4	.	.
173.5	AMPITHOE SP. A	.	.	.	.	0.4	0.4	.	.
173.5	AMPITHOIDAE A	.	.	0.2	0.2	0.2	0.2	.	.
173.5	ANACHIS LAFRESNAYI	.	.	.	.	0.4	0.2	.	.
173.5	ANOPLODACTYLUS PETIOLATUS	.	.	0.4	0.4	.	.	.	.
173.5	ASTROPORPA ANNULATA	.	.	0.4	0.4	.	.	.	.
173.5	AXIOTHELLA MUCOSA	.	.	0.4	0.4	.	.	.	.
173.5	BRANCHIOSYLLIS OCULATA	.	.	.	.	.	.	0.4	0.4
173.5	CHLAMYS BENEDICTI	.	.	.	.	0.4	0.4	.	.
173.5	CORBULA CHITTYANA	.	.	.	.	0.4	0.4	.	.
173.5	EUNICE ANTENNATA	.	.	.	.	.	.	0.4	0.2
173.5	EUPHROSINE SP.	.	.	0.4	0.4	.	.	.	.
173.5	GALATHEA ROSTRATA	.	.	.	.	0.2	0.2	0.2	0.2
173.5	GASTROPODA K	.	.	0.4	0.4	.	.	.	.
173.5	LILJEBORGIA SP. A	.	.	.	.	0.4	0.2	.	.
173.5	LILJEBORGIA SP. B	.	.	0.4	0.4	.	.	.	.
173.5	LUMBRINERIS LATREILLI	.	.	.	.	0.4	0.2	.	.

Appendix 3. (Continued)

STATION 0S06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
173.5	MAJIDAE			0.2	0.2	0.2	0.2		
173.5	MELITA APPENDICULATA			0.4	0.4				
173.5	MITHRAX ACUTICORNIS					0.2	0.2	0.2	0.2
173.5	NASSARINA MINOR			0.2	0.2	0.2	0.2		
173.5	NASSARIUS ALBUS					0.2	0.2	0.2	0.2
173.5	NEREIS SUCCINEA					0.4	0.4		
173.5	ONUPHIS PALLIDULA			0.2	0.2	0.2	0.2		
173.5	ONUPHIS SP.			0.2	0.2			0.2	0.2
173.5	OPHIACTIS SAVIGNYI			0.2	0.2			0.2	0.2
173.5	OPHIOCNIDA SP.			0.4	0.4				
173.5	OPHIOTHRIX ANGULATA			0.2	0.2	0.2	0.2		
173.5	OSACHILA TUBEROSA					0.4	0.4		
173.5	PAGURUS CAROLINENSIS			0.4	0.2				
173.5	PALICUS FAXONI			0.2	0.2	0.2	0.2		
173.5	PARACERCEIS CAUDATA			0.2	0.2			0.2	0.2
173.5	PARTHENOPE FRATERCULUS					0.4	0.2		
173.5	PELECYPODA 6					0.4	0.4		
173.5	PERICLIMENES IRIDESCENS							0.4	0.4
173.5	PILUMNUS SP.			0.4	0.4				
173.5	PITAR SIMPSONI					0.4	0.2		
173.5	POLYCIRRUS EXIMIUS			0.4	0.2				
173.5	POLYPLACOPHORA A					0.4	0.4		
173.5	RIMULA FRENULATA			0.4	0.4				
173.5	SPIONIDAE					0.4	0.4		
173.5	STHENELAIS BOA					0.4	0.4		
173.5	STOMATOPODA					0.4	0.4		
173.5	SYLLIS CORNUTA							0.4	0.4
173.5	TEREBELLIDAE			0.2	0.2	0.2	0.2		
173.5	TETRATHYRUS SP.					0.4	0.4		
173.5	THARYX MARIONI					0.4	0.4		
173.5	TRICHOBRANCHUS GLACIALIS							0.4	0.2
173.5	VERMILIOPSIS ANNULATA			0.2	0.2	0.2	0.2		
173.5	WEBSTERINEREIS SP.							0.4	0.4
173.5	WEBSTERINEREIS TRIDENTATA			0.2	0.2			0.2	0.2
257.5	AGLAOPHAMUS VERRILLI					0.2	0.2		
257.5	ALBUNEIDAE					0.2	0.2		
257.5	ALPHEUS SP. B							0.2	0.2
257.5	AMPELISCA SCHELLENBERGI			0.2	0.2				
257.5	AMPHINOMIDAE B					0.2	0.2		
257.5	AMPHIPODA					0.2	0.2		
257.5	AMPHIPODA B					0.2	0.2		
257.5	AMYGDALUM SAGITTATUM			0.2	0.2				
257.5	ANOPLODACTYLUS INSIGNIS							0.2	0.2
257.5	ARCA IMBRICATA			0.2	0.2				
257.5	ASTERIAS FORBESII			0.2	0.2				
257.5	AUTOMATE SP.			0.2	0.2				
257.5	AXIOGNATHUS SQUAMATUS					0.2	0.2		
257.5	CALLIOSTOMA PULCHRUM			0.2	0.2				
257.5	CALOCARIS HIRSUTIMANA							0.2	0.2
257.5	CAPITELLA CAPITATA							0.2	0.2
257.5	CERADOCUS SP. B					0.2	0.2		
257.5	CERATONEREIS SP.			0.2	0.2				
257.5	CERATONEREIS SP. B			0.2	0.2				
257.5	CERODRILLIA PERRYAE							0.2	0.2
257.5	CHAETOPTERUS VARIOPEDATUS			0.2	0.2				

Appendix 3. (Continued)

STATION OS06

OVERALL RANK	SPECIES	WINTER		SPRING		SUMMER		FALL	
		MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR	MEAN	ST ERR
257.5	CHAETOZONE SETOSA	.	.	.	.	.	.	0.2	0.2
257.5	CHAMA CONGREGATA	.	.	0.2	0.2	.	.	.	.
257.5	CHIONE SP.	.	.	.	.	0.2	0.2	.	.
257.5	CLYTHROCERUS PERPUSILLUS	.	.	0.2	0.2	.	.	.	.
257.5	COLOMASTIX SP.	.	.	0.2	0.2	.	.	.	.
257.5	CRASSINELLA MARTINICENSIS	.	.	0.2	0.2	.	.	.	.
257.5	CRENELLA DECUSSATA	.	.	0.2	0.2	.	.	.	.
257.5	CREPIDULA ACULEATA	.	.	0.2	0.2	.	.	.	.
257.5	DARDANUS INSIGNIS	.	.	0.2	0.2	.	.	.	.
257.5	DENDROCHIROTIDA	.	.	.	.	0.2	0.2	.	.
257.5	DIPLOCIRRUS CAPENSIS	.	.	.	.	0.2	0.2	.	.
257.5	ERICHSONELLA FILIFORMIS	.	.	.	.	0.2	0.2	.	.
257.5	EULALIA SP.	.	.	.	.	0.2	0.2	.	.
257.5	EULALIA SP. A	.	.	.	.	0.2	0.2	.	.
257.5	EXOGONE DISPAR	.	.	.	.	0.2	0.2	.	.
257.5	FAVARTIA CELLULOSA	.	.	.	.	0.2	0.2	.	.
257.5	GAMMAROPSIS SP.	.	.	.	.	.	.	0.2	0.2
257.5	GASTROCHAENA HIANS	.	.	0.2	0.2	.	.	.	.
257.5	GONEPLACIDAE *	.	.	0.2	0.2	.	.	.	.
257.5	GONIADIDAE	.	.	0.2	0.2	.	.	.	.
257.5	GOULDIA CERINA	.	.	.	.	0.2	0.2	.	.
257.5	HETEROMYSIS FORMOSA	.	.	0.2	0.2	.	.	.	.
257.5	HIPPOMEDON SP. A	.	.	.	.	0.2	0.2	.	.
257.5	HOLOTHUROIDEA	.	.	.	.	0.2	0.2	.	.
257.5	HYDROIDES SP. D	.	.	.	.	0.2	0.2	.	.
257.5	HYPERIIDEA	.	.	.	.	0.2	0.2	.	.
257.5	HYPSICOMUS PHAEOTAENIA	.	.	.	.	0.2	0.2	.	.
257.5	LAEVICARDIUM PICTUM	.	.	0.2	0.2	.	.	.	.
257.5	LEPTOCHELA SP.	.	.	.	.	0.2	0.2	.	.
257.5	LIMA SCABRA	.	.	0.2	0.2	.	.	.	.
257.5	LIMEA BRONNIANA	.	.	.	.	0.2	0.2	.	.
257.5	LUMBRINERIDAE	.	.	.	.	0.2	0.2	.	.
257.5	LYTECHINUS VARIEGATUS	.	.	0.2	0.2	.	.	.	.
257.5	MACRURA	.	.	.	.	0.2	0.2	.	.
257.5	MAERA SP.	.	.	0.2	0.2	.	.	.	.
257.5	MAGELONA SP. B	.	.	.	.	0.2	0.2	.	.
257.5	MEIOSQUILLA QUADRIDENS	.	.	.	.	0.2	0.2	.	.
257.5	MELITIDAE	.	.	.	.	0.2	0.2	.	.
257.5	MESOCHAETOPTERUS SP.	.	.	0.2	0.2	.	.	.	.
257.5	MICROJASSA SP. A	.	.	0.2	0.2	.	.	.	.
257.5	MICROPANOPE SP.	.	.	.	.	.	.	0.2	0.2
257.5	MICROSPIO PIGMENTATA	.	.	0.2	0.2	.	.	.	.
257.5	MITHRAX PLEURACANTHUS	.	.	0.2	0.2	.	.	.	.
257.5	NATICA CANRENA	.	.	.	.	0.2	0.2	.	.
257.5	NEODRILLIA CYDIA	.	.	.	.	0.2	0.2	.	.
257.5	OPHIOPHRAGMUS SP.	.	.	.	.	0.2	0.2	.	.
257.5	PAGURUS PIERCEI	.	.	0.2	0.2	.	.	.	.
257.5	PALEANOTUS SP. A	.	.	.	.	0.2	0.2	.	.
257.5	PARTHENOPE SP.	.	.	.	.	0.2	0.2	.	.
257.5	PELECYPODA A	.	.	.	.	0.2	0.2	.	.
257.5	PERICLIMENAEUS ASCIDIARUM	.	.	0.2	0.2	.	.	.	.
257.5	PERICLIMENAEUS ATLANTICUS	.	.	0.2	0.2	.	.	.	.
257.5	PERICLIMENES SP.	.	.	.	.	.	.	0.2	0.2
257.5	PHTISICA MARINA	.	.	0.2	0.2	.	.	.	.
257.5	PHYLLODOCE CASTANEA	.	.	.	.	0.2	0.2	.	.

Appendix 3. (Continued)

STATION OS06

OVERALL RANK	SPECIES	WINTER MEAN	WINTER ST ERR	SPRING MEAN	SPRING ST ERR	SUMMER MEAN	SUMMER ST ERR	FALL MEAN	FALL ST ERR
257.5	PHYLLODOCE MUCOSA	.	.	0.2	0.2	.	.	.	.
257.5	PILUMNUS SAYI *	.	.	0.2	0.2	.	.	.	.
257.5	PINNA CARNEA	.	.	.	.	0.2	0.2	.	.
257.5	PINNIXA SP.	.	.	0.2	0.2	.	.	.	.
257.5	PINNOTHERIDAE	.	.	0.2	0.2	.	.	.	.
257.5	PODARKE OBSCURA	.	.	0.2	0.2	.	.	.	.
257.5	PODOCERUS SP.	.	.	0.2	0.2	.	.	.	.
257.5	PODOCHELA GRACILIPES	.	.	.	.	0.2	0.2	.	.
257.5	POLYCHAETA G	.	.	.	.	0.2	0.2	.	.
257.5	POLYCIRRUS CAROLINENSIS	.	.	0.2	0.2	.	.	.	.
257.5	PRIONOSPIO CIRROBRANCHIATA	.	.	0.2	0.2	.	.	.	.
257.5	PROCERAEA SP.	.	.	.	.	.	.	0.2	0.2
257.5	PROCESSA PROFUNDA	.	.	.	.	.	.	0.2	0.2
257.5	PROTULA TUBULARIA	.	.	0.2	0.2	.	.	.	.
257.5	PSAMMOLYCE CTENIDOPHORA	.	.	0.2	0.2	.	.	.	.
257.5	PSEUDEURYTHOE AMBIGUA	.	.	0.2	0.2	.	.	.	.
257.5	PSEUDOMEDAEUS AGASSIZII	.	.	.	.	0.2	0.2	.	.
257.5	PSEUDOVERMILIA SP.	.	.	0.2	0.2	.	.	.	.
257.5	PSEUDOVERMILIA OCCIDENTALIS	.	.	0.2	0.2	.	.	.	.
257.5	SABELLA MICROPHTHALMA	.	.	.	.	0.2	0.2	.	.
257.5	SCALIBREGMA INFLATUM	.	.	.	.	0.2	0.2	.	.
257.5	SEMELE SP.	.	.	.	.	0.2	0.2	.	.
257.5	SERPULA VERMICULARIS GRANULOSA	.	.	0.2	0.2	.	.	.	.
257.5	SICYONIA SP.	.	.	.	.	0.2	0.2	.	.
257.5	SOLASTER CARIBBAEUS	.	.	0.2	0.2	.	.	.	.
257.5	SPATANGONIDAE	.	.	.	.	.	.	0.2	0.2
257.5	SPIONIDAE B	.	.	0.2	0.2	.	.	.	.
257.5	STHENELAIS SP.	.	.	.	.	0.2	0.2	.	.
257.5	SYLLIDAE D	.	.	0.2	0.2	.	.	.	.
257.5	SYLLIDAE E	.	.	0.2	0.2	.	.	.	.
257.5	SYLLIDAE I	.	.	0.2	0.2	.	.	.	.
257.5	SYLLIS GRACILIS	.	.	.	.	0.2	0.2	.	.
257.5	SYNALPHEUS LONGICARPUS	.	.	0.2	0.2	.	.	.	.
257.5	SYNALPHEUS MINUS	.	.	.	.	0.2	0.2	.	.
257.5	SYNALPHEUS SP. *	.	.	.	.	0.2	0.2	.	.
257.5	TANYSTYLIDAE A	.	.	0.2	0.2	.	.	.	.
257.5	TRACHYCARIS RESTRICTUS	.	.	.	.	0.2	0.2	.	.
257.5	TRITONIA BAYERI MISA	.	.	.	.	.	.	0.2	0.2
257.5	TRIVIA CANDIDULA	.	.	0.2	0.2	.	.	.	.
257.5	VITRINELLIDAE C	.	.	0.2	0.2	.	.	.	.

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